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DEVELOPMENT OF MD-DRG ALGORITHMS

PHASE 1
FINAL REPORT

CONTRACT NO. 500-85-0023

MANDEX, INC.



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August 15, 1986

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APPENDIX

A. OVERVIEW AND OUTLINE

A. OVERVIEW

This project has been concerned with a variety of analyses of Medicare physician billings based upon the complete 1983 patient history data from each of four carriers.¹ One of the analyses was relevant to the question of physician DRGs, however, the bulk of the efforts were devoted to the other analyses including: examinations of the distribution of Medicare allowed charges across procedures and physician practices, simulations of fee schedules in one state, and comparisons of data from the patient history files and the BMAD files maintained by HCFA.

Much of this work has been presented in the periodic progress reports prepared during the course of the project. These are reproduced and included in Section C. Four distinct notes on findings with respect to the fee schedule simulations and the practice oriented analyses are included in Section B. A separate deliverable from the practice oriented analyses is a set of computer printouts on the HCPCS billings codes and modifiers used by each specialty in the state of South Carolina.

¹ These include South Carolina, Washington State, North and South Dakota -- both served by North Dakota Blue Shield, and northern and western Minnesota -- not including Minneapolis, St. Paul, or the southeast counties of that state.

B. NEW SECTIONS

B. NEW SECTIONS

1. The Size Distribution of Medicare Part B Payments to Physician Practices

There has been considerable literature on changes in Medicare payments to physicians and on the distribution of those payments by region, type of service, and physician specialty.¹ While there has been no explicit presumption that physician practices within any of those cells are identical, the specific issue of total payment differences between otherwise comparable physician practices has not received much attention. One can note, for example, that 14.3 percent of internal medicine practices in South Carolina in 1983 would have observed reductions in excess of 10 percent in Medicare reimbursements given a conversion to a fee schedule based on average approved charges.² Implicitly, each of those practices has equal weight to any of the other practices that would have observed lower reductions or absolute increases. Similarly, 29.8 percent of physicians were reported to be Medicare "Participating" physicians in fiscal year 1985, each presumably of equal weight to any of those physicians who did not elect to participate.

While it was conceivable that most practices were of comparable size with a small number of outliers at either extreme, data from each of four Medicare carriers³ reveal a very different picture. In fact, the size distribution of

¹ Most recently, such studies include Ira Burney and George Schieber, "Medicare physicians' services: the composition of spending and assignment rates," Health Care Financing Review, 7:97-110, Fall, 1985, and Alma McMillan, James Lubitz, and Marilyn Newton, "Trends in physician assignment rates for Medicare services, 1968-84," Health Care Financing Review, 7:59-76, Winter, 1985.

² David Juba, "Analysis of issues relating to implementing a Medicare physician fee schedule," cited in U.S. Congress, Office of Technology Assessment, Payment for Physician Services: Strategies for Medicare, OTA-H-294, (Washington, D.C.: Government Printing Office, February 1986).

³ The four carriers were the Blue Shield plans of South Carolina, North Dakota, Minnesota, and Washington State. (The North Dakota plan processed claims for both North and South Dakota. The Minnesota plan processed claims only from the western and northeastern corners of that state and does not include Minneapolis or counties in the southeast in its jurisdiction.) The data involved derive from Medicare beneficiary history files for services provided during calendar year 1983.

payments is neither statistically normal nor roughly uniform. Instead the distribution of payments is skewed toward apparently very large practices with half of Medicare approved charges going to no more than 8 percent of physician practices in each carrier jurisdiction. Perhaps more surprising, the lower half of the distribution of practices by annual approved charges accounts for at most 5 percent of total approved physician charges for each carrier. In three of the four carrier jurisdictions, 50 percent of the practices receive 1 percent or less of total approved charges. The aggregate data are portrayed in Figure 1.

Specialty Effects

Two possible explanations for this phenomenon might involve (1) differences in specialty involvement in Medicare and (2) the existence of relatively large group practices otherwise undiscernable from solo practices or small partnerships. With respect to the former, one would not be surprised to observe relatively low total Medicare payments to those pediatricians who do provide services to Medicare beneficiaries. Payments to ophthalmologists on the other hand might appear to be more significant. Thus the aggregate distribution might tend to appear more skewed toward apparently large practices.

In examining this hypothesis, stratifying by specialty does alleviate some of the skewedness in the data, but the aggregate picture remains the same. For most specialties, 50 percent of total charges can be accounted for by 10-15 percent of all practices, while the lower 50 percent of all practices receive as much as 22 percent and as little as less than half of one percent of total approved charges. Data for the major Medicare specialties are presented in Table 1.

Table 1 Cumulative Distributions of Medicare Total Approved Charges by Specialty

Specialty/ Carrier	Upper Percent of Practices						Percent of Prac- tices for 50th Per- centile of Total Approved Charges
	1	2	5	10	25	50	
General Practice							
SC	7.7	12.7	23.9	37.6	65.3	90.1	16
DK	9.6	16.7	32.3	49.7	80.8	97.5	11
MN	12.7	17.4	31.1	46.6	80.7	97.0	11
WA	14.3	18.9	29.2	40.7	64.2	87.3	16
Family Practice							
SC	10.2	15.4	27.2	42.8	69.9	92.5	14
DK	14.6	20.2	36.8	56.8	88.4	99.2	9
MN	*	22.5	36.2	50.5	78.5	95.9	10
WA	12.4	17.8	29.4	41.3	65.6	87.8	15
Internal Medicine							
SC	9.8	16.2	28.4	42.5	67.1	90.3	14
DK	10.3	16.4	30.5	48.1	86.0	99.9	11
MN	*	12.6	26.1	49.7	87.4	96.9	11
WA	20.7	26.1	33.8	43.1	63.3	85.4	15
OBGYN							
SC	12.6	18.5	30.4	44.0	70.0	90.7	13
DK	*	20.6	34.8	48.9	73.0	93.6	11
MN	*	*	*	*	*	*	*
WA	15.7	20.3	31.5	43.7	65.8	85.9	14
	1	2	5	10	25	50	
General Surgery							
SC	12.6	19.8	36.7	49.1	71.3	89.3	11
DK	*	13.2	26.2	43.6	79.9	99.9	13
MN	8.8	17.2	24.5	41.2	70.1	92.4	15
WA	19.3	27.2	40.4	50.5	69.3	87.8	10
Ophthalmology							
SC	*	18.6	29.2	45.7	70.3	92.4	12
DK	*	19.1	42.7	58.8	89.3	99.95	8
MN	*	7.0	16.3	26.5	55.8	84.7	23
WA	13.5	22.4	35.8	46.8	71.7	92.0	11
Orthopedic Surgery							
SC	*	12.1	26.9	44.6	65.9	86.3	13
DK	10.5	17.8	27.5	51.5	86.9	99.9	10
MN	*	*	*	63.3	89.4	97.8	2
WA	10.8	17.1	29.9	43.4	65.0	86.9	14
Urology							
SC	8.3	12.8	23.4	35.4	58.2	83.8	19
DK	*	12.5	23.4	44.2	84.2	99.95	12
MN	*	*	19.8	33.8	70.5	94.2	20
WA	5.4	9.5	19.1	30.8	54.1	78.8	22

Table 1 (Continued)

Specialty/ Carrier		Upper Percent of Practices						Percent of Prac- tices for 50th Per- centile of Total Approved Charges
		1	2	5	10	25	50	
Anesthesia								
	SC	13.6	*	35.7	48.1	71.2	87.0	11
	DK	*	16.9	35.5	53.4	87.3	99.9	9
	MN	*	*	*	*	*	*	*
	WA	43.7	49.7	60.5	73.4	83.7	92.5	3
Pathology								
	SC	*	*	60.5	72.0	93.3	99.7	5
	DK	*	*	34.9	*	89.2	98.0	8
	MN	*	*	*	54.7	80.2	92.1	10
	WA	*	*	*	62.8	81.1	97.7	8
Radiology								
	SC	12.6	23.7	36.0	53.4	78.8	93.9	9
	DK	25.4	33.5	49.2	67.2	94.4	99.9	6
	MN	*	30.2	47.7	67.2	91.8	98.3	6
	WA	7.9	14.2	28.4	45.8	74.6	95.4	13

* = Not interpolated due to insufficient observations

The data are fairly consistent across specialties and carriers. With few exceptions, the top five percent of practices receive roughly 25 to 35 percent of total approved charges. The top ten percent of practices receive roughly 45 to 50 percent of total approved charges. Payments to ophthalmologists in western Minnesota and urologists in all four carrier jurisdictions appear to be somewhat less concentrated. Payments to anesthesiologists in Washington, pathologists in South Carolina, and radiologists in the Dakotas and Minnesota appear to be more concentrated.

Group Practice Effects

Since the practice of group practice is common to all specialties, it is conceivable that these data merely reflect relatively large payments to groups of physicians rather than to individual physicians with substantial Medicare

practices. Unfortunately, the claims data available for this study do not provide a reliable indicator of group practice. Group size is recorded by some carriers on some of the claims, but not consistently. The data for two of the carriers were consistently either zero or missing for that variable.

The carrier in the State of South Carolina is unique in recording both a provider number and an employer identification number (EIN) or a social security number (SSN) on each record. Using both numbers to partition the data can allow identification of individual physicians within groups. This perspective might enable the discernment of group practice effects on the apparent skewedness of the size distribution of payments. The resulting picture, however, is not much different from the initial one. A general measure of the uniformity of distributions is the Gini coefficient. This measure ranges in value from 0 to 1.0 with lower values associated with more uniform distributions. For the South Carolina data on Medicare physician payment, use of only the EIN/SSN number yields a Gini coefficient of .669. In fact, using both a provider number and the EIN/SSN increases the Gini coefficient, but only to .700.

The skewedness remains even when the data are stratified by specialty. These data are displayed in Table 2. In all likelihood, not all group practices have been identified by using two identifiers rather than one. Therefore, the statistics in Table 2 may be biased upward as indicators of concentration in Medicare payments.

Table 2 Cumulative Distribution of Medicare Total Approved Charges by Specialty -- South Carolina

Specialty/ Carrier	Upper Percent of Practices						Percent of Practices for 50th Percentile of Total Approved Charges
	1	2	5	10	25	50	
General Practice							
One ID	7.7	12.7	23.9	37.6	65.3	90.1	16
Two IDs	10.8	16.3	32.7	51.4	84.3	99.3	9
Family Practice							
One ID	10.2	15.4	27.2	42.8	69.9	92.5	14
Two IDs	11.7	17.9	34.2	53.5	84.8	99.0	9
Internal Medicine							
One ID	9.8	16.2	28.4	42.5	67.1	90.3	14
Two IDs	8.0	13.0	25.8	43.3	78.5	99.1	13
OBGYN							
One ID	12.6	18.5	30.4	44.0	70.0	90.7	13
Two IDs	15.4	20.8	31.9	45.4	70.7	92.4	13
	1	2	5	10	25	50	
General Surgery							
One ID	12.6	19.8	36.7	49.1	71.3	89.3	11
Two IDs	6.3	10.9	21.6	35.9	63.7	90.7	17
Ophthalmology							
One ID	9.5	18.6	29.2	45.7	70.3	92.4	12
Two IDs	6.2	9.3	21.3	35.3	67.3	93.5	17
Orthopedic Surgery							
One ID	6.3	12.1	26.9	44.6	65.9	86.3	13
Two IDs	4.3	7.9	15.6	26.1	51.0	79.6	25
Urology							
One ID	8.3	12.8	23.4	35.4	58.2	83.9	19
Two IDs	4.9	9.3	18.2	30.5	60.9	93.7	19
	1	2	5	10	25	50	
Anesthesia							
One ID	13.6	*	35.7	48.1	71.2	87.0	11
Two IDs	4.1	7.9	20.2	30.2	54.2	80.6	23
Pathology							
One ID	*	*	60.5	72.0	93.3	99.7	5
Two IDs	42.5	51.8	69.4	80.8	93.4	99.3	2
Radiology							
One ID	12.6	23.7	36.0	53.4	78.8	93.9	9
Two IDs	18.8	29.5	52.1	67.9	86.9	98.5	6

* = Not interpolated due to insufficient observations

Implications for Research, Program Administration, and Policy

What meaning do these observations have? The facts are that many physicians provide services to Medicare beneficiaries. Some provide many services; many provide only a few. Does this simply reflect the diversity of the American health care system? And what can these facts contribute, if at all, to Medicare program administration or to the process of research and policy analysis for program improvement?

Some of the implications of the skewed distribution of payments on current administration are obvious. In particular, the current customary, prevailing, and reasonable (CPR) fee determination system likely involves substantial wasted effort. For the most part, each practice requires a carrier fee screen for each service it has provided. Since half of those practices have insignificant individual volumes of service, much of the carrier effort in developing such screens will be at most inconsequential, if not mathematically degenerate. A fee schedule approach would seem much more practical for such practices. (Unfortunately, recent changes due to the partial thaw of the physician fee freeze included in the Comprehensive Omnibus Budget Reconciliation Act of 1986 seem to move in the direction of even more individual physician practice fee data manipulation rather than less.)

The skewed distribution of payments in and of itself creates a challenge for policy analysis and research. Medicare recently initiated the development of a new data base to facilitate policy analysis/research with respect to physician practices involved in Medicare Part B. In particular, there is a new file of physician data known as the Part B Medicare Annual Data (BMAD) provider file. This data set is to include 100 percent of the claims data for a one percent sample of all practices that receive payments under Medicare Part B. Comparison of the BMAD provider files with the 100 percent carrier data described herein reveals that the BMAD sample of physicians indeed reflects the distribution of physician practices in the universe being sampled. Roughly half of the sample practices have only incidental contact with the Medicare program and

hardly any have a significant volume. Consequently, and unfortunately, the results from any analyses of these data will have to be viewed very skeptically.⁴

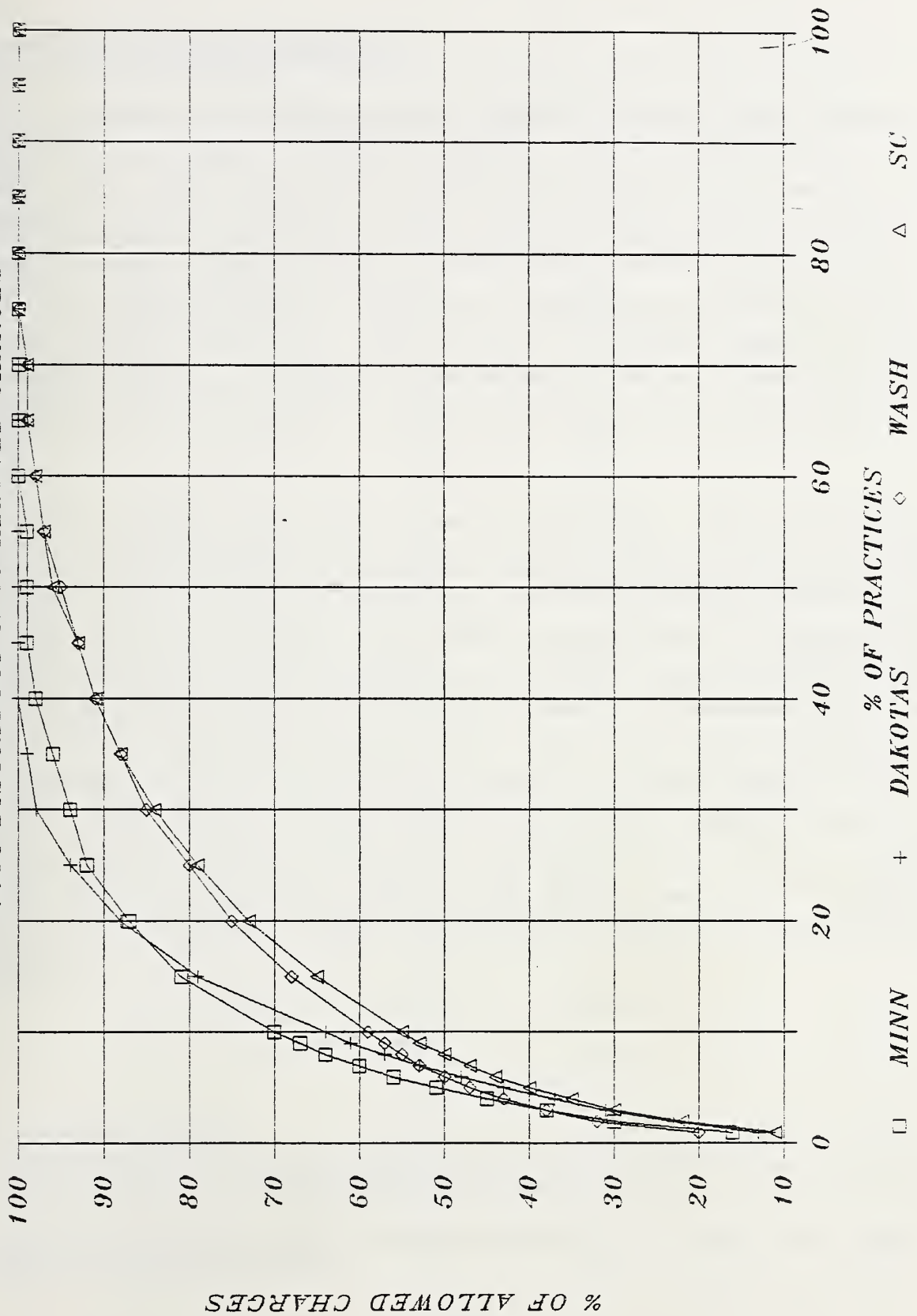
Although retaining diversity among physician practices involved in the Medicare program remains a worthwhile goal, the existence of a significant but relatively small group of physician practices that provide such a large portion of the Medicare business does suggest the potential for a new variety of policy options that might not include all physician practices. Current policies are implicitly designed to treat all practices equally or at least give the opportunity for equal treatment. What is tantalizing about the skewedness of individual practice volumes is the possibility that special concessions from such practices with respect to participation, assignment, or beneficiary liability might be gleaned in response to special treatment for the practices that provide the bulk of Medicare services.

The claims data cannot provide all the answers at this point. These data do not suggest that the large practices are particularly higher or lower in assignment rates, assigned charges, or beneficiary non-assigned liability. However, the data used in this study pre-date the Medicare Participating Practice Initiative, hence there is no information as yet on whether such large practices were more or less likely to participate. Probably more important, there is no information on the claims data in hand with respect to practice location or beneficiary residence. The latter would be necessary to assess potential effects on beneficiary access to care that might accompany any new "large practice"-oriented policy initiative.

⁴ The author is chagrined to note that during his tenure at HCFA he advocated a one percent physician sample rather than a larger sample.

FIGURE 1

1983 DISTRIBUTION OF ALLOWED CHARGES



2. Beneficiary-Oriented Statistics

In one phase of the practice-based analyses, the claims files were partitioned through sorting by SSN/EIN, specialty, and then by beneficiary HIC number. This enabled various examinations of the distribution of specialty and individual practice characteristics with respect to the number of unique beneficiaries served, allowed charges per beneficiary, services per beneficiary, etc. The accompanying tables document the findings from these analyses for 23 of the Medicare specialties. These included 19 physician specialties plus osteopathy, dentistry, chiropractic, and podiatry. Choice of specialties was based primarily on retaining a minimum sample size in all four carrier data sets.¹

Table 1 presents these data by specialty and state. The table indicates sample size and the average total annual allowed charges per practice for 1983 in each of the four carrier jurisdictions. Because of potential differences in price levels across these areas, each average was normalized by dividing by the average total annual allowed charges per practice for internal medicine within each jurisdiction.² Within each specialty in Table 1, jurisdictions are listed from highest to lowest with respect to this ratio. Thus general practitioners in the Dakotas have the highest ratio compared to internal medicine at 0.63, while South Carolina GPs have the lowest ratio at 0.32. Specialties were also initially ranked ordinally within each jurisdiction in terms of average allowed charges per practice. (GPs in the Dakotas were the 11th highest specialty in this regard.) These "state"-specific rankings are also displayed in Table 1.

¹ Not all specialties were well represented in all carrier jurisdictions. For example, there were no cardiologists in the Minnesota data.

² The largest individual Medicare specialty nationally in terms of total allowed charges is internal medicine.

TABLE 1 SPECIALTY SPECIFIC SAMPLE SIZES PER JURISDICTION, AVERAGE ALLOWED CHARGES PER PRACTICE, RANK WITHIN JURISDICTION, AND RATIO TO THE AVERAGE ALLOWED CHARGES PER PRACTICE FOR INTERNAL MEDICINE, 1983

CARRIER	SPECIALTY TITLE	COUNT	AVERAGE ALLOWED PER PRACTICE	RANK ORDER	RATIO
DK	GENERAL PRACTICE	679	16170	11	0.63
MN	GENERAL PRACTICE	150	11769	10	0.57
WA	GENERAL PRACTICE	902	25866	15	0.38
SC	GENERAL PRACTICE	518	14609	17	0.32
MN	GENERAL SURGERY	59	33118	4	1.62
SC	GENERAL SURGERY	226	54943	8	1.21
WA	GENERAL SURGERY	286	80715	9	1.18
DK	GENERAL SURGERY	265	28924	6	1.12
WA	OTOLARYNGOLOGY	96	32062	13	0.47
SC	OTOLARYNGOLOGY	50	19235	14	0.42
DK	OTOLARYNGOLOGY	83	9900	15	0.38
MN	OTOLARYNGOLOGY	9	3506	16	0.17
WA	ANESTHESIA	89	144789	4	2.12
SC	ANESTHESIA	71	55905	7	1.23
DK	ANESTHESIA	118	27434	7	1.06
MN	ANESTHESIA	15	2830	17	0.14
WA	CARDIOLOGY	83	125129	5	1.83
SC	CARDIOLOGY	49	72603	4	1.60
DK	CARDIOLOGY	61	25250	9	0.98
SC	DERMATOLOGY	56	40224	11	0.88
DK	DERMATOLOGY	47	12615	13	0.49
WA	DERMATOLOGY	91	28203	14	0.41
MN	DERMATOLOGY	11	7243	11	0.35
MN	FAMILY PRACTICE	124	15049	8	0.73
SC	FAMILY PRACTICE	312	18938	15	0.42
DK	FAMILY PRACTICE	344	10232	14	0.40
WA	FAMILY PRACTICE	290	24025	16	0.35
WA	INTERNISTS	604	68422	11	1.00
DK	INTERNISTS	492	25832	8	1.00
MN	INTERNISTS	107	20491	6	1.00
SC	INTERNISTS	353	45504	9	1.00
WA	OSTEOPATHY	39	17543	19	0.26
DK	OSTEOPATHY	2	3430	21	0.13
MN	OSTEOPATHY	5	1277	19	0.06
SC	OSTEOPATHY	5	1519	21	0.03

TABLE 1 (Continued)

CARRIER	SPECIALTY TITLE	COUNT	AVERAGE ALLOWED PER PRACTICE	RANK ORDER	RATIO
WA	NEUROLOGY	58	44573	12	0.65
SC	NEUROLOGY	37	26033	12	0.57
DK	NEUROLOGY	59	14046	12	0.54
MN	NEUROLOGY	16	4506	13	0.22
WA	NEUROSURGERY	40	75632	10	1.11
SC	NEUROSURGERY	24	42931	10	0.94
DK	NEUROSURGERY	37	21194	10	0.82
MN	NEUROSURGERY	7	4171	14	0.20
DK	OBGYN	104	7405	17	0.29
MN	OBGYN	19	3538	15	0.17
WA	OBGYN	228	7231	20	0.11
SC	OBGYN	217	3815	20	0.08
MN	OPHTHALMOLOGY	47	134847	1	6.58
DK	OPHTHALMOLOGY	115	78008	1	3.02
SC	OPHTHALMOLOGY	106	92589	3	2.03
WA	OPHTHALMOLOGY	189	124108	6	1.81
WA	DENTISTS	26	3972	22	0.06
DK	DENTISTS	34	1486	22	0.06
MN	DENTISTS	51	286	21	0.01
SC	DENTISTS	52	306	22	0.01
MN	ORTHOPEDICS	25	72100	2	3.52
DK	ORTHOPEDICS	155	33726	3	1.31
SC	ORTHOPEDICS	106	57117	6	1.26
WA	ORTHOPEDICS	195	85506	8	1.25
WA	PATHOLOGY	25	145092	3	2.12
SC	PATHOLOGY	40	15060	16	0.33
DK	PATHOLOGY	37	7239	18	0.28
MN	PATHOLOGY	30	759	20	0.04
DK	PLASTIC SURGERY	13	8768	16	0.34
WA	PLASTIC SURGERY	62	22049	18	0.32
SC	PLASTIC SURGERY	22	14047	18	0.31
MN	PLASTIC SURGERY	2	2780	18	0.14
MN	PSYCHIATRY	27	6962	12	0.34
DK	PSYCHIATRY	85	6059	19	0.23
SC	PSYCHIATRY	119	9084	19	0.20
WA	PSYCHIATRY	274	6857	21	0.10
WA	RADIOLOGY	96	249467	1	3.65
SC	RADIOLOGY	85	115104	2	2.53
DK	RADIOLOGY	196	33284	4	1.29
MN	RADIOLOGY	54	21340	5	1.04

TABLE 1 (Continued)

CARRIER	SPECIALTY TITLE	COUNT	AVERAGE ALLOWED PER PRACTICE	RANK ORDER	RATIO
WA	THORACIC SURGERY	17	248050	2	3.63
SC	THORACIC SURGERY	31	134636	1	2.96
DK	THORACIC SURGERY	40	65542	2	2.54
MN	THORACIC SURGERY	2	13919	9	0.68
MN	UROLOGY	20	55062	3	2.69
WA	UROLOGY	94	107988	7	1.58
SC	UROLOGY	89	61720	5	1.36
DK	UROLOGY	132	30647	5	1.19
WA	CHIROPRACTORS	2	2289	23	0.03
MN	CHIROPRACTORS	5	14	22	0.00
DK	CHIROPRACTORS	97	83	23	0.00
MN	PODIATRY	31	16649	7	0.81
SC	PODIATRY	28	25871	13	0.57
WA	PODIATRY	127	23403	17	0.34
DK	PODIATRY	33	5002	20	0.19

Table 1 suggests that there is a great deal of consistency between the carrier jurisdictions with respect to individual specialties. The carrier specific rankings, for example, are very close for most specialties. For example, chiropracty and dentistry are ranked last and next to last in each jurisdiction in which they appeared. Neurosurgery was ranked 10th in three of the carriers, and 14th in the fourth. The only major difference in rankings occurs with respect to anesthesiologists in the Minnesota Blue Shield data set. We had previously determined that the Minnesota data did not include any claims for anesthesia services from anesthesiologists. Thus it is not surprising that this specialty is ranked either 4th or 7th by three carriers, but 17th in Minnesota.

The Minnesota data probably suffer from other omissions due to the processing by Travelers of the data for Minneapolis and the remainder of the southeast corner of that state. In terms of the ratio to the internal medicine average, Minnesota specialties almost always rank either first or last and differ substantially from the respective ratios from the other carriers. For example, for general surgery, the three other carriers' ratios vary from 1.12 to 1.21, but the Minnesota value is 1.62. For otolaryngology, the Minnesota ratio is .17 while the ratios for the three other carriers range from .38 to .47. For

orthopedic surgery, the Minnesota value is nearly triple the value for any other carrier. For ophthalmology, the Minnesota value is more than double the next highest value. Since the ordinals appear plausible, it is conceivable that a wide variety of practices exist in the Travelers' data that provide services to beneficiaries in the Minnesota Blue Shield Jurisdiction.

Table 2 includes additional information on specialty averages with respect to beneficiary counts and unassigned liability. Within specialty, these data are sorted by the average number of unique beneficiaries per practice. Thus one can observe that the Washington State general practices rank the highest of the four carrier jurisdictions with 193.3 beneficiaries per practice, while the Minnesota estimate is the lowest at 104. The pattern that emerges suggests that Washington, in particular, and South Carolina seem to exhibit very large practices, perhaps due to substantial groups billing with a single identifier. For the most part, the Dakota and Minnesota estimates are much smaller. The Minnesota GP estimate may be due to the split jurisdiction phenomenon described above. With the striking exception of ophthalmology, the Minnesota estimates of beneficiaries per practice are almost always the lowest of the four carriers. The lower estimates for both Minnesota and the Dakotas could also reflect a phenomenon of out of state referrals for specialized services. Specifically, those in-state practices that do exist in those states would appear to receive a lower number of patients. It is also conceivable that in the absence of a relatively large number of potential patients, those (presumably more rural) practices provide more care to each of a smaller number of patients.

TABLE 2 DISTRIBUTION BY SPECIALTY OF PER PRACTICE ALLOWED CHARGES,
UNASSIGNED LIABILITY, AND BENEFICIARIES, 1983

STATE	SPECIALTY	ALLOWED CHARGES	UNASSIGNED LIABILITY		BENEFICIARIES	
			TOTAL	% Of COST SHARING	TOTAL	AVERAGE PER PRACTICE
WA	GENERAL PRACTICE	25866	5472	17.5	174357	193.3
SC	GENERAL PRACTICE	14609	3141	17.7	91359	176.4
DK	GENERAL PRACTICE	16170	3688	18.6	103548	152.5
MN	GENERAL PRACTICE	11769	3487	22.9	15617	104
SC	GENERAL SURGERY	54943	4230	7.1	43190	191.1
WA	GENERAL SURGERY	80715	13534	14.4	50889	177.9
MN	GENERAL SURGERY	33118	9521	22.3	7055	120
DK	GENERAL SURGERY	28924	6900	19.3	28927	109.2

TABLE 2 (Continued)

STATE	SPECIALTY	ALLOWED CHARGES	UNASSIGNED LIABILITY		BENEFICIARIES	
			TOTAL	% OF COST SHARING	TOTAL	AVERAGE PER PRACTICE
WA	OTOLARYNGOLOGY	32062	6912	17.7	30578	318.5
SC	OTOLARYNGOLOGY	19235	3840	16.6	10058	201.2
DK	OTOLARYNGOLOGY	9900	2355	19.2	9880	119
MN	OTOLARYNGOLOGY	3506	1695	32.6	191	21
WA	ANESTHESIA	144789	58692	28.8	50358	565.8
SC	ANESTHESIA	55905	12446	18.2	20040	282.3
DK	ANESTHESIA	27434	4967	15.3	14622	123.9
MN	ANESTHESIA	2830	877	23.7	496	33
WA	CARDIOLOGY	125129	21778	14.8	34838	419.7
SC	CARDIOLOGY	72603	10670	12.8	15593	318.2
DK	CARDIOLOGY	25250	6785	21.2	5457	89.5
WA	DERMATOLOGY	28203	3194	10.2	30032	330
SC	DERMATOLOGY	40224	4254	9.6	17283	308.6
DK	DERMATOLOGY	12615	3931	23.8	7204	153.3
MN	DERMATOLOGY	7243	2710	27.2	2474	134
SC	FAMILY PRACTICE	18938	4397	18.8	62778	201.2
WA	FAMILY PRACTICE	24025	5014	17.3	53531	184.6
MN	FAMILY PRACTICE	15049	4838	24.3	16973	137
DK	FAMILY PRACTICE	10232	2450	19.3	31896	92.7
WA	INTERNISTS	68422	12933	15.9	208021	344.4
SC	INTERNISTS	45504	8692	16	103887	294.3
DK	INTERNISTS	25832	6976	21.3	85638	174.1
MN	INTERNISTS	20491	7579	27	16792	157
WA	OSTEOPATHY	17543	3437	16.4	4889	125.4
DK	OSTEOPATHY	3430	880	20.4	185	92.5
SC	OSTEOPATHY	1519	427	21.9	215	43
MN	OSTEOPATHY	1277	292	18.6	116	23
WA	NEUROLOGY	44573	8611	16.2	16279	280.7
SC	NEUROLOGY	26033	4644	15.1	7721	208.7
DK	NEUROLOGY	14046	3911	21.8	6444	109.2
MN	NEUROLOGY	4506	1258	21.8	629	39
WA	NEUROSURGERY	75632	12322	14	7691	192.3
SC	NEUROSURGERY	42931	8890	17.2	2760	115
DK	NEUROSURGERY	21194	8093	27.6	1346	36.4
MN	NEUROSURGERY	4171	1382	24.9	142	20
DK	OBGYN	7405	2080	21.9	5446	52.4
WA	OBGYN	7231	1641	18.5	10441	45.8
SC	OBGYN	3815	397	9.4	6554	30.2
MN	OBGYN	3538	1282	26.6	429	23

TABLE 2 (Continued)

STATE	SPECIALTY	ALLOWED CHARGES	UNASSIGNED LIABILITY		BENEFICIARIES	
			TOTAL	% OF COST SHARING	TOTAL	AVERAGE PER PRACTICE
MN	OPHTHALMOLOGY	134857	30018	18.2	35564	757
WA	OPHTHALMOLOGY	124108	19891	13.8	114749	607.1
SC	OPHTHALMOLOGY	92589	9897	9.7	50489	476.3
DK	OPHTHALMOLOGY	78008	10330	11.7	35736	310.7
WA	DENTISTS	3972	844	17.5	778	29.9
DK	DENTISTS	1486	347	18.9	529	15.6
MN	DENTISTS	286	71	19.9	161	3
SC	DENTISTS	306	38	11	115	2.2
SC	ORTHOPEDICS	57117	8395	12.8	22269	210.1
WA	ORTHOPEDICS	85506	15248	15.1	40441	207.4
MN	ORTHOPEDICS	72100	25547	26.2	4112	164
DK	ORTHOPEDICS	33726	8991	21	13357	86.2
WA	PATHOLOGY	145092	15517	9.7	42533	1701.3
SC	PATHOLOGY	15060	12614	45.6	15029	375.5
DK	PATHOLOGY	7239	1707	19.1	6505	175.8
MN	PATHOLOGY	759	60	7.2	688	23
WA	PLASTIC SURGERY	22049	3791	14.7	3803	61.3
SC	PLASTIC SURGERY	14047	3163	18.4	686	31.2
DK	PLASTIC SURGERY	8768	2570	22.7	243	18.7
MN	PLASTIC SURGERY	2780	1426	33.9	20	10
SC	PSYCHIATRY	9084	1547	14.6	5806	48.8
WA	PSYCHIATRY	6857	1477	17.7	8317	30.4
MN	PSYCHIATRY	6962	2120	23.3	755	28
DK	PSYCHIATRY	6059	1607	21	2136	25.1
WA	RADIOLOGY	249467	35882	12.6	199980	2083.1
SC	RADIOLOGY	115104	3746	3.2	123270	1450.2
MN	RADIOLOGY	21340	4912	18.7	22767	422
DK	RADIOLOGY	33284	4875	12.8	68921	351.6
WA	THORACIC SURGERY	248050	44035	15.1	4172	245.4
SC	THORACIC SURGERY	134636	5343	3.8	6230	201
DK	THORACIC SURGERY	65542	11849	15.3	2433	60.8
MN	THORACIC SURGERY	13919	798	5.4	33	17
WA	UROLOGY	107988	18151	14.4	30688	326.5
SC	UROLOGY	61720	8641	12.3	25124	282.3
MN	UROLOGY	55062	13649	19.9	4026	201
DK	UROLOGY	30647	6183	16.8	14491	109.8
WA	CHIROPRACTORS	2289	280	10.9	159	79.5
DK	CHIROPRACTORS	83	13	13.5	138	1.4
MN	CHIROPRACTORS	14	1	6.7	5	1

TABLE 2 (Continued)

STATE	SPECIALTY	ALLOWED CHARGES	UNASSIGNED LIABILITY		BENEFICIARIES	
			TOTAL	% OF COST SHARING	TOTAL	AVERAGE PER PRACTICE
SC	PODIATRY	25871	2883	10	10659	380.7
WA	PODIATRY	23403	3906	14.3	33746	265.7
MN	PODIATRY	16649	5605	25.2	7329	236
DK	PODIATRY	5002	1432	22.3	2546	77.2

Another major difference between South Carolina and Washington on the one hand, and Minnesota and the Dakotas on the other involves unassigned liability as a percentage of beneficiary cost-sharing. Aggregate beneficiary unassigned liability per practice is added to 20 percent of allowed charges per practice to estimate total beneficiary liability per practice. Unassigned liability is expressed as a percentage of this estimate of beneficiary cost sharing. Minnesota's estimates exceed those of any of the carriers with only a few exceptions, and the Dakotas' estimates virtually always are second for each specialty.

TABLE 3 PHYSICIAN SPECIALTIES WITH RESPECT TO PER BENEFICIARY ALLOWED CHARGES, UNASSIGNED CHARGES, AND CLAIMS, AND CLAIMS PER BENEFICIARY

STATE	SPECIALTY	ALLOWED CHARGES PER BENE	RATIO TO INTERNAL MEDICINE	UNASSIGNED CHARGES PER BENE	ALLOWED CHARGES PER CLAIM	CLAIMS PER BENE
MN	THORACIC SURGERY	843.6	6.46	48.4	843.6	1
WA	THORACIC SURGERY	1010.8	5.09	179.4	430.6	2.3
DK	THORACIC SURGERY	1077.6	4.87	194.8	447.2	2.4
SC	THORACIC SURGERY	669.9	4.33	26.6	298.2	2.2
DK	NEUROSURGERY	582.6	3.93	222.5	306.8	1.9
MN	ORTHOPEDICS	438.4	3.36	155.3	146.7	3
DK	PLASTIC SURGERY	469.1	3.16	137.5	234.1	2
SC	PLASTIC SURGERY	450.5	2.91	101.4	170.8	2.6
DK	ORTHOPEDICS	391.4	2.64	104.3	124.2	3.2
SC	NEUROSURGERY	373.3	2.41	77.3	193.1	1.9
WA	GENERAL SURGERY	453.6	2.28	76.1	161.2	2.8
MN	PLASTIC SURGERY	278	2.13	142.6	168.5	1.6
MN	GENERAL SURGERY	277	2.12	79.6	65.6	4.2
MN	UROLOGY	273.5	2.09	67.8	67.7	4
WA	ORTHOPEDICS	412.3	2.07	73.5	121.8	3.4
WA	NEUROSURGERY	393.4	1.98	64.1	167.8	2.3
MN	PSYCHIATRY	249	1.91	75.8	40.2	6.2
DK	CARDIOLOGY	282.3	1.9	75.8	81.1	3.5
DK	UROLOGY	179.2	1.88	56.3	69.7	4

TABLE 3 (Continued)

STATE	SPECIALTY	ALLOWED CHARGES PER BENE	RATIO TO INTERNAL MEDICINE	UNASSIGNED CHARGES PER BENE	ALLOWED CHARGES PER CLAIM	CLAIMS PER BENE
SC	GENERAL SURGERY	287.5	1.86	22.1	109.1	2.6
WA	PLASTIC SURGERY	359.5	1.81	61.8	140.6	2.6
DK	GENERAL SURGERY	265	1.79	63.2	62.9	4.2
SC	ORTHOPEDICS	271.9	1.76	40	89.6	3
DK	OPHTHALMOLOGY	251	1.69	33.2	134.4	1.9
WA	UROLOGY	330.8	1.66	55.6	67.3	4.9
DK	PSYCHIATRY	241.1	1.62	64	52.9	4.6
MN	NEUROSURGERY	205.6	1.57	68.2	148.2	1.4
WA	CARDIOLOGY	298.1	1.5	51.9	60.7	4.9
DK	ANESTHESIA	221.4	1.49	40.1	148.9	1.5
SC	CARDIOLOGY	228.2	1.48	33.5	58.3	3.9
SC	UROLOGY	218.6	1.41	30.6	53.6	4.1
MN	OPHTHALMOLOGY	178.2	1.36	39.7	83	2.1
WA	ANESTHESIA	255.9	1.29	103.7	203.3	1.3
SC	ANESTHESIA	198.1	1.28	44.1	174.4	1.1
MN	OTOLARYNGOLOGY	165.2	1.26	79.9	124.8	1.3
SC	OPHTHALMOLOGY	194.4	1.26	20.8	105	1.9
SC	PSYCHIATRY	186.2	1.2	31.7	49.1	3.8
MN	OBGYN	156.7	1.2	56.8	67.7	2.3
WA	OPHTHALMOLOGY	204.4	1.03	32.8	102.5	2.
WA	INTERNISTS	198.7	1	37.6	29.7	6.7
SC	INTERNISTS	154.6	1	29.5	29.2	5.3
DK	INTERNISTS	148.4	1	40.1	26.7	5.6
MN	INTERNISTS	130.6	1	48.3	23.8	5.5
DK	OBGYN	141.4	0.95	39.7	34.1	4.1
SC	DENTISTS	138.7	0.9	17.3	84	1.7
MN	NEUROLOGY	114.6	0.88	32	69.1	1.7
DK	NEUROLOGY	128.6	0.87	35.8	59.3	2.2
MN	GENERAL PRACTICE	113	0.87	33.5	17.7	6.4
SC	DERMATOLOGY	130.3	0.84	13.8	36.9	3.5
MN	FAMILY PRACTICE	109.9	0.84	35.3	18.2	6
SC	OBGYN	126.3	0.82	13.2	52	2.4
SC	NEUROLOGY	124.8	0.81	22.3	53.4	2.3
WA	NEUROLOGY	158.8	0.8	30.7	57.9	2.7
WA	OBGYN	157.9	0.79	35.8	57.7	2.7
DK	FAMILY PRACTICE	110.4	0.74	26.4	22.1	5
WA	OSTEOPATHY	139.9	0.7	27.4	20.2	6.9
DK	GENERAL PRACTICE	103.2	0.7	23.5	21.8	4.7
MN	DENTISTS	90.7	0.69	22.7	49	1.9
WA	GENERAL PRACTICE	133.8	0.67	28.3	21.5	6.2
WA	DENTISTS	132.8	0.67	28.2	58	2.3
MN	ANESTHESIA	85.6	0.66	26.5	49.3	1.7
WA	FAMILY PRACTICE	130.2	0.66	27.2	21.8	6
DK	DENTISTS	95.5	0.64	22.3	50.4	1.9
DK	RADIOLOGY	94.7	0.64	13.9	40.1	2.4
SC	OTOLARYNGOLOGY	95.6	0.62	19.1	41.9	2.3
SC	FAMILY PRACTICE	94.1	0.61	21.9	17.3	5.4
WA	RADIOLOGY	119.8	0.6	17.2	41.6	2.9

TABLE 3 (Continued)

STATE	SPECIALTY	ALLOWED CHARGES PER BENE	RATIO TO INTERNAL MEDICINE	UNASSIGNED CHARGES PER BENE	ALLOWED CHARGES PER CLAIM	CLAIMS PER BENE
DK	OTOLARYNGOLOGY	83.2	0.56	19.8	41.2	2
DK	DERMATOLOGY	82.3	0.55	25.7	32.4	2.5
MN	PODIATRY	70.4	0.54	23.7	24.2	2.9
SC	GENERAL PRACTICE	82.8	0.54	17.8	15.9	5.2
SC	RADIOLOGY	79.4	0.51	2.6	26.6	3
WA	OTOLARYNGOLOGY	100.7	0.51	21.7	38.7	2.6
WA	PODIATRY	88.1	0.44	14.7	27.2	3.2
SC	PODIATRY	68	0.44	7.6	22.1	3.1
DK	PODIATRY	64.8	0.44	18.6	27	2.4
WA	DERMATOLOGY	85.5	0.43	9.7	27.5	3.1
WA	PATHOLOGY	85.3	0.43	9.1	18.2	4.7
MN	OSTEOPATHY	55.1	0.42	12.6	18.2	3
MN	DERMATOLOGY	54.1	0.41	20.2	22.4	2.4
DK	CHIROPRACTORS	58.8	0.4	9.4	41.4	1.4
MN	RADIOLOGY	50.6	0.39	11.7	18.8	2.7
DK	PATHOLOGY	41.2	0.28	9.7	12.9	3.2
SC	PATHOLOGY	40.1	0.26	33.6	7.8	5.1
MN	PATHOLOGY	33.1	0.25	2.6	23.9	1.4
DK	OSTEOPATHY	37.1	0.25	9.5	16.9	2.2
SC	OSTEOPATHY	35.3	0.23	9.9	13.6	2.6
WA	CHIROPRACTORS	28.8	0.14	3.5	22	1.3
MN	CHIROPRACTORS	14.2	0.11	1.8	10.1	1.4

Table 3 presents the specialty averages with respect to per beneficiary allowed charges, unassigned liability, and claims, and allowed charges per claim. This list has been ranked according to allowed charges per beneficiary for each specialty relative to the allowed charges per beneficiary for internal medicine in the same carrier jurisdiction. Not surprisingly, the surgical specialties cluster at the top of the list. Psychiatry (from Minnesota) is the first non-surgical specialty, appearing 17th in order out of 90. (The psychiatry average for three of the four carriers cluster very near the national annual limit of \$250 per beneficiary for psychiatric care. The estimate for psychiatry for the remaining carrier is more than \$60 below this limit.)

Again, the specialties tend to cluster with respect to their statewide ratios. Thoracic surgery is the highest specialty in both absolute and relative terms. Plastic surgery and orthopedic surgery follow. Five surgical specialties from this selection average at least twice the annual per beneficiary allowed charges compared to internal medicine. Curiously, ophthalmology appears

to be the lowest ranked major surgical specialty in terms of relative allowed charges per beneficiary. The rankings of the specialties are displayed in Table 4. For the most part, the ratios with respect to internal medicine are consistent across the carrier jurisdictions. The Minnesota values are somewhat high for some specialties, but not uniformly so.

TABLE 4 SELECTED SPECIALTY AVERAGE ALLOWED CHARGES PER BENEFICIARY
RELATIVE TO INTERNAL MEDICINE, 1983

SPECIALTY	AVERAGE RATIO	SPECIALTY	AVERAGE RATIO
THORACIC SURGERY	5.79	DENTISTRY	.73
PLASTIC SURGERY	2.50	FAMILY PRACTICE	.71
NEUROSURGERY	2.47	GENERAL PRACTICE	.70
ORTHOPEDIC SURGERY	2.46	DERMATOLOGY	.56
GENERAL SURGERY	2.01	RADIOLOGY	.54
CARDIOLOGY	1.63	GENERAL PRACTICE	.70
PSYCHIATRY	1.47	DERMATOLOGY	.56
ANESTHESIA	1.35	RADIOLOGY	.54
OPHTHALMOLOGY	1.34	PODIATRY	.47
INTERNAL MEDICINE	1	OSTEOPATHY	.40
OBGYN	.94	PATHOLOGY	.31
NEUROLOGY	.84	CHIROPRACTY	.16
OTOLARYNGOLOGY	.74		

Referring back to Table 3, there is an obvious correlation between allowed charges per beneficiary and unassigned charges per beneficiary. If anything, however, the pattern with respect to claims per beneficiary is somewhat u-shaped. The primary care specialties cluster in the middle of the distribution and have relatively many claims per beneficiary with relatively low allowed charges per claim. The surgical specialties have fewer claims per beneficiary but with higher average allowed charges. The least expensive specialties have few claims per beneficiary with average to low allowed charges per claim.

In a separate section of the study, it is noted that a very small percentage of individual patients receive both assigned and unassigned claims from the same practice. Because of this finding, the data were partitioned to examine any differences between the 100 percent assigned, the zero percent assigned, and the mixed patient groups. These results are displayed in Table 5.

TABLE 5 RATIOS OF ALLOWED CHARGES PER BENEFICIARY FOR ALL BENEFICIARIES, BENEFICIARIES WITH ALL CLAIMS ASSIGNED, AND THOSE BENEFICIARIES WITH BOTH ASSIGNED AND UNASSIGNED CLAIMS WITH RESPECT TO ALLOWED CHARGES PER BENEFICIARY FOR BENEFICIARIES WITH NO ASSIGNED CLAIMS FOR A PARTICULAR PRACTICE, 1983

STATE	SPECIALTY	% NONE	ALLOWED \$ PER BENE ALL PATS.	RATIOS		MXD
				TOTAL	100%	
SC	GENERAL PRACTICE	59	\$ 82.8	1.24	1.36	3.01
WA	GENERAL PRACTICE	76	133.8	1.06	1.07	2.22
MN	GENERAL PRACTICE	77	113.0	1.01	0.9	2.3
DK	GENERAL PRACTICE	61	103.2	0.87	0.58	2.1
SC	GENERAL SURGERY	34	287.5	1.44	1.63	2.34
MN	GENERAL SURGERY	85	277.0	1.03	1.14	1.65
WA	GENERAL SURGERY	73	453.6	1.06	1.11	2.1
DK	GENERAL SURGERY	79	265.0	1.01	0.93	1.75
SC	OTOLARYNGOLOGY	77	95.6	1.37	2.19	5.43
MN	OTOLARYNGOLOGY	83	165.2	1.07	1.35	0
WA	OTOLARYNGOLOGY	81	100.7	1.11	1.29	3.7
DK	OTOLARYNGOLOGY	84	83.2	1.05	1.15	3.24
SC	ANESTHESIA	36	198.1	1.03	1.03	2.1
WA	ANESTHESIA	75	255.9	1.01	1	1.88
DK	ANESTHESIA	63	221.4	0.97	0.89	1.8
MN	ANESTHESIA	51	85.6	0.85	0.65	1.77
WA	CARDIOLOGY	64	298.1	0.98	0.86	2.02
SC	CARDIOLOGY	45	228.2	1.02	0.83	2.69
DK	CARDIOLOGY	90	282.3	0.99	0.75	1.67
SC	DERMATOLOGY	59	130.3	1.67	2.41	3.83
WA	DERMATOLOGY	73	85.5	1.16	1.41	2.92
MN	DERMATOLOGY	90	54.1	1	0.85	1.56
DK	DERMATOLOGY	91	82.3	1.03	0.85	3.44
SC	FAMILY PRACTICE	62	94.1	1.33	1.58	3.25
WA	FAMILY PRACTICE	69	130.2	1.09	1.08	2.25
MN	FAMILY PRACTICE	81	109.9	1.03	0.99	2.09
DK	FAMILY PRACTICE	70	110.4	1.04	0.99	2.41
SC	INTERNISTS	45	154.6	1.24	1.51	2.75
WA	INTERNISTS	75	198.7	1.05	0.98	2.48
MN	INTERNISTS	82	130.6	1.03	0.93	3.26
DK	INTERNISTS	80	148.4	1	0.78	2.55
WA	OSTEOPATHY	77	139.9	1.07	1.05	1.89
SC	OSTEOPATHY	67	35.3	0.8	0.34	1.16
MN	OSTEOPATHY	84	55.1	0.87	0.22	0
DK	OSTEOPATHY	100	37.1	1	0	0

TABLE 5 (Continued)

STATE	SPECIALTY	% NONE	ALLOWED \$ PER BENE ALL PATS.	RATIOS		MXD
				TOTAL	100%	
SC	NEUROLOGY	62	124.8	1.26	1.58	2.58
MN	NEUROLOGY	70	114.6	1.13	1.02	10.64
DK	NEUROLOGY	76	128.6	1	0.98	2.25
WA	NEUROLOGY	66	158.8	1.02	0.95	2.19
SC	NEUROSURGERY	53	373.3	1.39	1.81	2.22
MN	NEUROSURGERY	75	205.6	1.06	1.24	0
WA	NEUROSURGERY	67	393.4	1.06	1.09	2.28
DK	NEUROSURGERY	88	582.6	1.01	1.04	2.05
SC	OBGYN	55	126.3	1.86	2.69	4.79
DK	OBGYN	74	141.4	1.05	1.07	2.61
WA	OBGYN	74	157.9	1.04	0.99	2.23
MN	OBGYN	78	156.7	0.93	0.7	0
SC	OPHTHALMOLOGY	77	194.4	1.43	2.21	6.34
MN	OPHTHALMOLOGY	84	178.2	1.19	1.31	6.04
WA	OPHTHALMOLOGY	84	204.4	1.18	1.14	5.35
DK	OPHTHALMOLOGY	87	251.0	1.05	1.06	3.57
SC	DENTISTS	65	138.7	1.73	3.15	2.01
WA	DENTISTS	82	132.8	1.19	1.66	4.95
DK	DENTISTS	93	95.5	1.04	1.38	3.47
MN	DENTISTS	90	90.7	0.95	0.52	0
SC	ORTHOPEDICS	50	271.9	1.29	1.43	2.81
MN	ORTHOPEDICS	82	438.4	1.05	1.16	2.28
WA	ORTHOPEDICS	69	412.3	1.09	1.12	2.46
DK	ORTHOPEDICS	88	391.4	1.02	1.01	2.26
WA	PATHOLOGY	65	85.3	1.64	2.46	10.27
MN	PATHOLOGY	13	33.1	1.27	1.31	0
DK	PATHOLOGY	74	41.2	1.06	1.08	2.59
SC	PATHOLOGY	78	40.1	1	0.93	2.18
SC	PLASTIC SURGERY	59	450.5	1.4	1.85	3.88
WA	PLASTIC SURGERY	68	359.5	1.17	1.45	2.2
DK	PLASTIC SURGERY	92	469.1	1.04	0.96	6.55
MN	PLASTIC SURGERY	45	278.0	0.62	0.32	0
WA	PSYCHIATRY	35	225.9	1.03	0.95	2.41
SC	PSYCHIATRY	31	186.2	1	0.91	2.42
MN	PSYCHIATRY	59	249.0	0.95	0.81	1.72
DK	PSYCHIATRY	46	241.1	0.92	0.78	1.97
SC	RADIOLOGY	7	79.4	1.03	1.01	2.14
MN	RADIOLOGY	63	50.6	1.01	0.96	2
WA	RADIOLOGY	62	119.8	1.02	0.95	2.36
DK	RADIOLOGY	58	94.7	0.97	0.86	2.23

TABLE 5 (Continued)

STATE	SPECIALTY	% NONE	ALLOWED \$ PER BENE ALL PATS.	RATIOS		MXD
				TOTAL	100%	
SC	THORACIC SURGERY	23	669.9	2.04	2.36	2.08
MN	THORACIC SURGERY	85	843.6	0.98	0.86	0
DK	THORACIC SURGERY	85	077.6	0.95	0.64	1.48 1
WA	THORACIC SURGERY	58	010.8	0.78	0.38	1.32 1
SC	UROLOGY	61	218.6	1.35	1.72	2.81
DK	UROLOGY	78	279.2	1.07	1.16	2.38
WA	UROLOGY	79	330.8	1.05	1.01	2.26
MN	UROLOGY	82	273.5	0.99	0.74	2.5
WA	CHIROPRACTORS	83	28.8	1.15	1.68	0
MN	CHIROPRACTORS	60	14.2	0.95	0.87	0
DK	CHIROPRACTORS	73	58.8	0.86	0.47	0
SC	PODIATRY	56	68.0	1.33	1.59	3.82
WA	PODIATRY	68	88.1	1.16	1.2	3.51
DK	PODIATRY	81	64.8	1.01	0.78	2.73
MN	PODIATRY	76	70.4	0.93	0.59	1.86

To compare the patients in each of these groups, the averages from one of the groups were selected to normalize the other values. Because most patient/practice contacts involved no assigned claims, the average annual allowed charges per patient for patients with no assigned claims was established as this numeraire for the analysis. The numeraire was then compared with the corresponding statistic for all beneficiaries, beneficiaries with all claims assigned, and beneficiaries with both assigned and unassigned claims. (The latter group typically comprised less than 5 percent of the patients from any individual practice.) Thus in Table 5 from the practice/patient contacts with general practitioners in South Carolina, it was established that 59 percent had involved unassigned claims only. The average allowed charges per beneficiary for all beneficiaries was \$82.80, which was 24 percent higher than the average allowed charges per beneficiary for the numeraire group, those patients with unassigned claims only. The average allowed charges of Medicare patients with assigned claims only were 36 percent higher than the numeraire group. Patients with both assigned and unassigned claims exhibited average allowed charges just more than triple the level of the numeraire.

One might hypothesize that patients with 100 percent assignment from an individual practice would demand more services from that practice than other patients. From the physician perspective, patients who might be expected to require above average amounts of service might be good candidates to be 100 percent assigned. South Carolina's evidence somewhat strongly supports and the other carriers' evidence somewhat weakly supports a notion that beneficiaries who are provided with 100 percent assigned services from an individual physician practice will receive more services or more expensive services than other beneficiaries patronizing that practice. The ratio of assigned charges per beneficiary for all patients compared to those of patients with no assigned claims is more often than not higher than one. However, for the specialties of cardiology, internal medicine, osteopathy, psychiatry, radiology, and thoracic surgery outside of South Carolina, this statistic is uniformly less than one. This would suggest that assigned patients receive less service than otherwise comparable patients who receive no assigned services. (The mixed patients uniformly appear to receive more services or more expensive services than either of the other groups.)

Finally, because patients with unassigned claims are financially liable for both coinsurance on allowed charges and the difference between billed and allowed charges, the data were partitioned to compare the total financial burdens on average of patients who received only assigned services from individual practices to those who received no assigned services. These data are displayed in Table 6.

TABLE 6 ESTIMATED AVERAGE BENEFICIARY LIABILITY FOR PATIENTS WITH ONLY
ASSIGNED CLAIMS COMPARED TO THOSE WITH NO ASSIGNED CLAIMS BY
PRACTICE BY SPECIALTY, 1983

PATIENT LIABILITY BY ASSIGNMENT CATEGORY				
STATE	SPECIALTY	100%	0%	Ratio
DK	OSTEOPATHY	0	16.91	NA
MN	PLASTIC SURGEONS	29.2	405.89	14.4
MN	OSTEOPATHY	2.8	27.58	9.9
SC	OSTEOPATHY	3.0	23.45	7.8
SC	PATHOLOGY	7.4	48.95	6.6
MN	ANESTHESIA	13.2	69.56	5.3
WA	THORACIC SURGERY	98.0	520.57	5.3
MN	PODIATRY	9.0	44.88	5.0
MN	OBGYN	23.4	106.39	4.5
MN	DENTISTS	9.8	43.99	4.5
DK	GENERAL PRACTICE	13.8	59.43	4.3
DK	PSYCHIATRY	40.8	166.88	4.1
DK	CHIROPRACTOR	6.4	26.12	4.1
MN	PSYCHIATRY	42.6	167.58	3.9
SC	ANESTHESIA	39.6	151.13	3.8
MN	PATHOLOGY	6.8	25.33	3.7
MN	DERMATOLOGY	9.2	33.02	3.6
WA	ANESTHESIA	50.8	183.49	3.6
DK	PODIATRY	10.0	33.60	3.4
MN	INTERNISTS	23.6	79.48	3.4
DK	INTERNISTS	23.2	75.83	3.3
WA	PSYCHIATRY	41.4	137.80	3.3
DK	CARDIOLOGY	43.0	138.75	3.2
MN	UROLOGY	40.8	131.33	3.2
DK	DERMATOLOGY	13.6	42.39	3.1
DK	THORACIC SURGERY	144.8	453.44	3.1
MN	GENERAL PRACTICE	20.2	62.18	3.1
SC	PSYCHIATRY	33.8	105.70	3.1
DK	NEUROSURGERY	119.2	362.06	3.0
MN	OTOLARYNGOLOGY	41.8	127.23	3.0
DK	NEUROLOGY	25.0	72.1	2.9
MN	FAMILY PRACTICE	21.2	60.97	2.9
DK	PLASTIC SURGERY	86.0	229.69	2.7
MN	RADIOLOGY	9.6	26.34	2.7
MN	NEUROSURGERY	48.0	129.64	2.7
MN	ORTHOPEDICS	96.6	256.83	2.7
DK	GENERAL SURGERY	48.8	124.90	2.6
DK	ANESTHESIA	40.8	107.48	2.6
DK	FAMILY PRACTICE	21.0	54.02	2.6
DK	OBGYN	28.8	75.78	2.6
DK	RADIOLOGY	16.8	41.63	2.5
SC	CARDIOLOGY	37.2	92.81	2.5
WA	CARDIOLOGY	52.2	132.57	2.5
DK	ORTHOPEDICS	77.8	190.08	2.4
DK	PATHOLOGY	8.4	20.22	2.4
MN	GENERAL SURGERY	61.2	144.21	2.4

TABLE 6 (Continued)

PATIENT LIABILITY
BY ASSIGNMENT CATEGORY

STATE	SPECIALTY	100%	0%	Ratio
WA	OBGYN	30.0	72.22	2.4
WA	NEUROLOGY	29.6	71.91	2.4
SC	RADIOLOGY	15.6	35.49	2.3
WA	INTERNISTS	37.2	81.33	2.2
DK	OTOLARYNGOLOGY	18.2	38.23	2.1
WA	GENERAL PRACTICE	27.0	57.40	2.1
WA	FAMILY PRACTICE	25.8	54.71	2.1
WA	RADIOLOGY	22.2	47.53	2.1
DK	UROLOGY	60.6	118.35	2.0
SC	GENERAL PRACTICE	18.2	35.66	2.0
WA	NEUROSURGERY	80.4	157.59	2.0
WA	OSTEOPATHY	27.6	55.25	2.0
WA	UROLOGY	63.5	123.61	1.9
WA	GENERAL SURGERY	95.0	177.68	1.9
WA	ORTHOPEDICS	85.0	165.33	1.9
MN	CHIROPRACTORS	2.6	4.67	1.8
SC	NEUROSURGERY	96.8	175.59	1.8
WA	OTOLARYNGOLOGY	23.4	42.06	1.8
WA	PODIATRY	18.2	32.65	1.8
MN	OPHTHALMOLOGY	39.4	68.09	1.7
AX	PLASTIC SURGERY	118.6	201.63	1.7
SC	FAMILY PRACTICE	22.4	38.96	1.7
DK	DENTISTS	25.4	41.87	1.6
DK	OPHTHALMOLOGY	50.6	83.03	1.6
MN	THORACIC SURGERY	147.8	229.30	1.6
SC	NEUROLOGY	31.2	48.87	1.6
SC	ORTHOPEDICS	60.0	96.57	1.6
WA	OPHTHALMOLOGY	39.6	64.64	1.6
WA	PLASTIC SURGERY	88.6	137.80	1.6
WA	DENTISTS	37.2	52.15	1.4
SC	PODIATRY	16.2	20.78	1.3
WA	DERMATOLOGY	20.8	26.44	1.3
SC	UROLOGY	55.8	68.47	1.2
SC	OTOLARYNGOLOGY	30.6	34.20	1.1
WA	CHIROPRACTOR	8.4	9.24	1.1
SC	INTERNISTS	37.8	39.01	1.0
SC	THORACIC SURGERY	154.8	145.94	0.9
SC	OBGYN	36.6	29.63	0.8
SC	OPHTHALMOLOGY	60.0	46.99	0.8
SC	DENTISTS	50.4	40.36	0.8
SC	DERMATOLOGY	37.6	31.30	0.8
WA	PATHOLOGY	25.6	21.29	0.8

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In all but 6 of 90 possible comparisons, the average beneficiary liability for those patients that had only assigned claims was less than that of beneficiaries with only nonassigned claims. The difference was as great as \$422.57. These simple differences, however, may be very misleading because the services being provided may well determine a patient's assignment status. Hence the 100 percent assigned patient for one practice may not be strictly comparable to the 0% assigned patient from that same practice. On the other hand, these statistics may understate the differences in beneficiary liability that might be observed for specific types of services. For example, a cataract operation might be billed at \$1500 with allowed charges equal to \$1200. The difference in beneficiary liability could be \$300--\$540 compared to \$240. The average beneficiary liability for ophthalmology in these data is less than \$100 because there are many other services that are performed by ophthalmologists.

The ratio of zero assigned to all assigned beneficiary liabilities ranges from 0.8 to 14.4 in these data. Because osteopaths in the Dakotas did not provide service to any patient on a 100 percent assigned basis in 1983, the actual differential was infinite in that case. The differences are most pronounced in the Dakotas and Minnesota. The specialty of osteopathy exhibits the greatest difference between beneficiary liability for assigned and unassigned patients, with psychiatry and anesthesia also consistently high.

These differences suggest that more might be done to alert Medicare beneficiaries of the magnitude of the potential savings that can accrue to receiving services on a 100 percent assigned basis. Although the principle that assigned claims may require less out-of-pocket, the actual size of the savings may be greater than is commonly realized. The participating physician program has identified physicians who guarantee this option. Better information on actual average patient liabilities may enhance beneficiary decision making, as a result providing increased incentives for physicians to elect to become participating practices.

3. Every Doc a "Par"

Under the Medicare Part B Program, those who are enrolled can be entitled to a reimbursement benefit for covered services. This benefit may be received directly through the process of the beneficiary submitting bills for covered services to a Medicare carrier. Alternatively, the beneficiary may assign the benefit to his or her physician. The physician who accepts this assignment may then bill the carrier directly. In return for the right to direct carrier billing, the physician who accepts assignment also agrees to accept the carrier's determination of approved charges as payment in full. That physician may not bill the beneficiary for any amount greater than 20 percent of the approved charge (above the deductible).

This system was adapted from the Blue Shield participating physician concept in use in the early 1960s. Under the different Plans' versions of this concept, certain patients or certain whole lines of business would not be liable for any charges above Plan allowances. The concept was an institutionalization of the Robin Hood concept, enabling physicians to be price discriminators charging lower prices to patients with low incomes.

Under the initial system of Medicare assignment, assignment decisions could be made on a claim-by-claim basis, and nationally roughly one half of all claims were accepted on assignment. The proportion of allowed charges due to assigned claims varied by specialty but most of the major specialties with respect to Medicare volume exhibited assignment rates between 45 and 55 percent.¹ Although individual practices varied with respect to assignment rates, roughly twenty percent of practices accepted assignment on nearly all claims,

¹ Ira Burney and George Schieber, "Medicare physicians' services: the composition of spending and assignment rates," Health Care Financing Review, 7:97-110, Fall, 1985, and Alma McMillan, James Lubitz, and Marilyn Newton, "Trends in physician assignment rates for Medicare services, 1968-84," Health Care Financing Review, 7:59-76, Winter 1985.

roughly thirty percent of practices hardly ever accepted assignment, and half were mixed with respect to assignment.²

The Deficit Reduction Act of 1984 added a new option to Medicare assignment. Under its provisions, a physician practice could elect to guarantee in advance that all claims during a 12-month period would be accepted on assignment. Such practices would be called Medicare Participating Practices, sometimes known as "pars." In return for this election, par practices would be allowed to increase their billed charges, while non-par practices' billed charges by service were frozen. In the first year of this initiative, 29.8 percent of practices elected to become Participating Practices. As a result, in 1985 68.6 percent of approved charges derived from assigned claims compared to 59.6 percent in the previous year.³

Data recently available from 1983 from each of four Medicare carriers⁴ suggests that the changeover to par status may not have been much of a change for many patients and physician practices. While assignment rates for a year's time varied by specialty and individual practice (and by beneficiary), these new data reveal that almost all individual patient-practice experiences were either 100 percent assigned or 100 percent unassigned. In fact, almost every practice was a "par" practice for at least one patient, and almost every practice was a "non-par" for at least one patient.⁵

² Ira Burney, Peter Hickman, Julia Paradise, and George Schieber, "Medicare physician payment, participation and reform," Health Affairs, vol 3(4), Winter 1984.

³ Alma McMillan, James Lubitz, and Marilyn Newton, "Trends in physician assignment rates for Medicare services, 1968-84," Health Care Financing Review, 7:59-76, Winter 1985. The Participating Practice Initiative began in the fourth quarter of 1984. In 1983, the last complete calendar year to predate the initiative, 55.6 percent of approved charges derived from assigned claims.

⁴ The four carriers were the Blue Shield plans of South Carolina, North Dakota, Minnesota, and Washington State. (The North Dakota plan processed claims for both North and South Dakota. The Minnesota plan processed claims only from the western and northeastern corners of that state and does not include Minneapolis or counties in the southeast in its jurisdiction.) The data involved derive from Medicare beneficiary history files for services provided during calendar year 1983.

⁵ Because some practices were not pars for any patient, one might say that some old fogies were bogies.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYS 441

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In each of the four carrier jurisdictions, fewer than 6 percent of individual patient practice histories involved both assigned and unassigned claims for any of the major specialties with respect to Medicare volume. These data are displayed in Table 1. One reads that table as follows. In the Dakotas in 1983, all claims were assigned for 37 percent of the individual patients of general practitioner practices. No claims were accepted on assignment for 61 percent of those patients. With respect to only those patients that had two or more claims from individual general practitioner practices, 27 percent had all claims accepted on assignment while 70 percent had no claims accepted on assignment. (These two sets of statistics suggest that patients in that jurisdiction with only one general practitioner claim were likely to have that claim assigned.) With respect to the allowed charges for the services provided to all patients of general practitioners, those patients who received all services on assignment represented 25 percent of total allowed charges, patients with no assigned services represented 70 percent of total allowed charges. Because 31 percent of the patients received services valued at 25 percent of total allowed charges, one can infer that the "All" patients received relatively inexpensive treatments from general practitioners. The "NONE" patients appeared to receive relatively expensive treatments. "Mixed" patients, however, appeared to receive the most expensive treatments. This was the case for virtually all of the specialties in all four carrier areas. There were few consistent patterns with respect to the relative costliness of the ALL and NONE patient groups compared to one another.

TABLE 1 PERCENT OF PATIENTS AND ALLOWED CHARGES BY PATIENT ASSIGNMENT
STATUS: 100% ASSIGNED (ALL), 100% UNASSIGNED (NONE) AND
MIXED (MXD)

	-----PATIENTS-----								
	ANY NUMBER OF CLAIMS			TWO OR MORE CLAIMS ONLY			ALLOWED CHARGES		
	ALL	MXD	NONE	ALL	MXD	NONE	ALL	MXD	NONE
NORTH AND SOUTH DAKOTA									
GP	37	2	61	27	3	70	25	5	70
GS	18	2	79	17	4	79	16	5	79
OTO	15	1	84	16	2	82	17	3	80
ANES	36	1	63	29	3	68	33	1	65
CARDIO	9	1	90	8	2	91	7	2	91
FP	27	3	70	25	4	71	26	7	68
INT	18	2	80	14	3	83	14	5	81
OBGYN	24	2	74	26	3	71	25	5	70
OPHTH	11	2	87	10	4	87	11	5	83
ORTHO	11	1	88	10	2	88	11	3	86
PATH	25	1	74	19	2	79	26	3	71
PSYCH	51	3	46	52	4	44	43	7	50
RAD	41	2	58	37	3	60	36	4	60
UROL	20	2	78	18	3	79	21	5	74
WASHINGTON									
GP	21	4	76	19	5	76	21	8	71
GS	24	3	73	23	5	72	25	6	69
OTO	17	2	81	17	3	80	20	7	73
CARDIO	34	3	64	30	4	66	30	6	65
ANES	24	1	75	29	6	65	24	2	74
FP	25	5	69	25	7	68	25	11	64
INT	22	3	75	19	4	77	20	8	72
OBGYN	22	3	74	20	6	75	21	7	71
OPHTH	12	4	84	12	9	79	12	17	71
ORTHO	27	4	69	24	5	71	28	8	64
PATH	33	2	65	35	3	62	50	10	40
PSYCH	60	4	35	56	7	37	55	10	34
RAD	35	3	62	37	5	58	33	6	61
UROL	17	4	79	15	4	80	16	8	76

TABLE 1 (Continued)

	-----PATIENTS-----								
	ANY NUMBER OF CLAIMS			TWO OR MORE CLAIMS ONLY			ALLOWED CHARGES		
	ALL	MXD	NONE	ALL	MXD	NONE	ALL	MXD	NONE
MINNESOTA BLUE SHIELD ⁶									
GP	21	2	77	19	3	78	19	5	76
GS	14	1	85	13	2	85	15	2	83
OTO	17	0	83	22	0	78	22	0	78
FP	16	3	81	15	3	82	16	5	79
INT	17	2	81	13	3	85	16	6	79
OBGYN	22	0	78	25	0	75	17	0	83
OPHTH	13	3	84	12	7	81	14	14	71
ORTHO	16	2	82	15	3	82	18	5	77
PATH	87	0	13	75	0	25	46	0	54
PSYCH	38	2	59	38	4	58	33	4	63
RAD	34	2	63	36	4	59	33	5	62
UROL	16	2	82	12	3	85	12	5	83
SOUTH CAROLINA									
GP	36	5	59	37	7	59	40	12	48
GS	61	4	34	58	8	34	67	7	24
OTO	21	3	77	20	5	76	33	11	56
CARDIO	49	6	45	40	9	51	40	16	44
ANES	63	1	36	70	8	22	64	2	35
FP	32	6	62	34	8	59	39	14	47
INT	25	6	69	24	7	68	31	13	56
OBGYN	40	4	55	36	8	56	59	11	30
OPHTH	19	4	77	21	9	70	29	16	41
ORTHO	44	6	50	40	8	52	48	12	39
PATH	21	1	78	20	3	77	19	3	78
PSYCH	65	4	31	62	6	32	59	10	31
RAD	91	1	7	93	3	5	90	3	7
UROL	33	6	61	32	7	61	43	12	45

The ALL percentages are higher for the State of South Carolina than for the other jurisdictions, consistent with that state's historically higher assignment rates.⁷ Most often, however, individual specialty statistics are

⁶ The data from Minnesota Blue Shield did not include any observations for cardiologists nor any claims for anesthesia services from anesthesiologists.

⁷ Alma McMillan, James Lubitz, and Marilyn Newton, "Trends in physician assignment rates for Medicare services, 1968-84," Health Care Financing Review, 7:59-76, Winter 1985. The Participating Practice Initiative began in the fourth quarter of 1984. In 1983, the last complete calendar year to predate the Initiative, 55.6 percent of approved charges derived from assigned claims.

consistent across the jurisdictions. For the most part, the only practices with double digit percentages of mixed beneficiaries were those which only provided services to a small number of beneficiaries. (In fact, those polar practices which were exclusively assigned or unassigned were more likely to be small practices rather than ones with substantial numbers of Medicare beneficiaries.)

Mixed Patients

Because some fraction of all practices consists of treating patients who may have only one claim in a year, and thus have to be either ALL or NONE, the data were partitioned to include only those patients who had two or more claims. The resulting changes in the statistics by specialty are small. Slightly more often than not, a smaller percent of the patients with two or more claims appear in the ALL category compared to the universe of patients with any claim. There do not appear to be any patterns across specialties with respect to whether single claim patients are more likely to have assignment accepted or rejected.

Clearly, the mixed patient percentage increases by excluding patients with only one claim, but the change is not substantial. None of the major specialties reached the double digit level with respect to the mixed patient percentage in any of the carrier jurisdiction. Anesthesiologists exhibited the most consistent increases in the percentage of mixed patients, probably because they are more likely to have provided a single service to many beneficiaries during the calendar year.

Although the mixed patients are a relatively small fraction of all patients for any practice or specialty, they represent a larger share of total approved charges, particularly for the specialty of ophthalmology. These patients present something of a paradox. The average maximum bill and the average total approved charges were computed for each of the three patient groups for each specialty. In addition, the actual maximum bills and maximum total annual charges were identified for each practice and specialty. By the averages, the mixed patient group was uniformly higher than either of the two other patient groups. However, with few exceptions, the maximum bill or the maximum total

charge for a mixed patient was never higher than either the ALL group maxima or or the NONE group maxima.

Review of individual patient records for the mixed patients identified several possible explanations of their occurrence, but no consistent patterns. Some of the mixed patients received services from more than one physician in an individual practice and appeared to be an ALL patient for one physician and a NONE for another. Some patients appear to be 100 percent unassigned early in the year and assigned later in the year. A few patients had that pattern reversed. There did not appear to be a single "big bill" associated with a switch from NONE status to ALL status for these patients, although a switch which coincided with a hospitalization was observed for several of these patients.

Patient-Par Agreements

The predominant models used in analyzing assignment decisions have implicitly assumed a claim-by-claim assignment process. The data suggest that with few exceptions the actual assignment process was patient-by-patient. This does not necessarily invalidate the earlier findings, particularly with respect to the relation between a practice's aggregate assignment rate and its ratio of approved charges to billed charges, however, it suggests that there may be alternative interpretations. In previous studies, it has been inferred that a relatively high ratio of allowed charges to billed charges leads to relatively high assignment rates. While it is probably not the case that high assignment rates instead lead to high ratios of allowed to billed charges, both the charges ratio and the practice assignment rate may be correlated with one or more other factors associated with physicians' practices. For example, studies to date of physician practices which have become pars suggest that the ratio of allowed to billed charges was relatively higher for par practices than for non-pars⁸ and

⁸ P.S. Cotter and J. Willer, "An analysis of physician response to Medicare participation," American Medical Association, Chicago, IL, September 25, 1985, mimeo.

that par practices served relatively greater numbers of low income patients.⁹ Practices which have located in a relatively low patient income environment might well have relatively high assignment rates either because of a predominance of Medicaid eligible Medicare patients -- whose claims must be accepted on assignment -- or because the practice chooses to accept assignment on all claims from the lowest income patients. If the charges to such practice's non-Medicare patients do not differ from charges to Medicare patients for comparable services, and the demand for services by such private patients is relatively price elastic¹⁰, then it is likely that such practices would exhibit relatively high ratios of allowed charges to billed charges. If this were the case for the bulk of assigned patients, raising allowed charges might not significantly increase assignment rates nor would reductions in allowed charges lead to lowered assignment rates. In fact, assignment rates even prior to the par agreements had been increasing consistently since mid 1977, even though the national aggregate ratio of allowed charges to billed charges had been consistently declining.

If assignment decisions are patient-by-patient rather than claim-by-claim, it does suggest that the earlier guides to assignment rates could have been misleading as a guide to beneficiaries for selecting a physician practice. Selecting a practice which had exhibited a 60 percent assignment rate likely would not mean that 60 percent of the selecting beneficiary's claims could be expected to be accepted on assignment. In fact, except for Medicaid patients, it could mean a 40 percent chance that no claims would be accepted on assignment. Future directories of non-par practices would face the same problem.

The apparent facility by which physicians previously had established patients as either ALL or NONE for a given time period suggests a marketing tool for physician practices which had not elected to become Medicare participating practices. Although it is alleged that the competitive position of the Medicare pars is enhanced and those of non-pars reduced by the availability of directories

⁹ M.L. Rosenbach, S. Hurdle, and J. Cromwell, An Analysis of Medicare's Physician Participation Agreement Program: Final Report, (Needham, MA: Health Economics Research, Inc., October 29, 1985)

¹⁰ A relatively small increase in price would lead to a relatively large reduction in patient purchases of services.

of par practices, some practices remain non-pars because they believe that some of their patients can and should pay more than just the coinsurance on approved charges for physician services provided. Such practices might want to advertise the availability of individual patient-practice agreements under which acceptance of assignment would be guaranteed by the practice.

The Medicare program itself might sanction and offer to enforce such agreements, but it would receive little benefit by making patient-by-patient agreements an alternative to "complete" participation. Under such an option, some fraction of the existing pars would drop out to take the patient-by-patient route. Few beneficiaries would gain with respect to the physician assignment relationships that are already available to them.

4. Fee Schedule Simulations¹

Recently there has been increased interest in the topic of fee schedules as an alternative to the CPA method of allowed charge determination.¹ The CPA method is cumbersome to administer, it can produce a bewildering array of different allowed charges for different physicians performing a single physician service, and, as a result, it can and has produced confusion among both physicians and beneficiaries. A fee schedule that involved payments for services that did not vary with respect to the individual physician performing the service in question would be easier to implement and much less confusing. What other effects implementation of a fee schedule would have, particularly any reallocations of Medicare and beneficiary funds, are important issues. This section of the report deals with a number of those issues.

Data, Assumptions, and Conventions

Data for the analysis derive from Medicare carrier's complete beneficiary history data set for South Carolina for services rendered and reimbursed in calendar year 1983. Because calendar year 1983 spanned two Medicare fee screen years, only claims for services rendered on or after July 1, 1983 were included in the analysis. Hence the results relate to the fee screen year 1984 allowed charges that were in effect from July 1, 1983 through the end of the physician fee freeze in the spring of 1986. (Because of the way South Carolina maintains its beneficiary history file, relatively few claims from November and especially December were included in the file. This shortfall in data, however, would not be expected to bias measures of actual individual allowed charges or estimates of average allowed charges during fee screen year 1984.)

¹ U.S. Congress, Office of Technology Assessment, Payment for Physician Services: Strategies for Medicare, OTA-H-294 (Washington, DC: U.S. Government Printing Office, February 1986); U.S. Congress, Congressional Budget Office, Physician Reimbursement Under Medicare: Options for Charge, (Washington, DD: Congressional Budget Office, April 1986).

The data was partitioned by physician practice using the SSN/EIN identifier on the claims data. Because the South Carolina data includes a provider number in addition to the SSN/EIN, two sets of simulations were possible. Contrasting the results from using one identifier only with those resulting from using both identifiers, allows an initial assessment of whether aggregate results with respect to individual physicians will differ appreciably from those with respect to physician practices.

The design of the simulations was also influenced by another result from this study with respect to the size distribution of allowed charges to physician practices. In particular, that distribution is very skewed with roughly 50 percent of allowed charges in each specialty being accounted for by 10-15 percent of physician practices. Further, the 50 percent of the practices that are the smallest account for roughly only 5 percent of total allowed charges. For this reason, the distribution of fee schedule financial impacts across practices only is potentially misleading. In particular, knowing only that say 5 percent of practices will experience a specific impact may not be very revealing. If those 5 percent happen to be below the median practice in total annual charges, there may be little change. However, if those practices are in the upper decile of practices, there may be a dramatic change. For this reason financial impacts are reported both in terms of the percentages of practices expected to experience a particular range of financial impacts and in terms of the percentage of allowed charges currently allocated to those practices.

Although most discussions of changes in physician reimbursement sooner or later introduce the desirability of reducing payments, most analyses begin with the premise that a new fee schedule should be examined with respect to fees that in the aggregate produce identical total expenditures compared to CPR. This can be thought to separate the fee schedule impact from that of any change in the aggregate level of fees. For the most part, this convention has been adopted for this analysis.

The coding system used to identify physician services also presents a problem analysing fee schedule impacts because there are some 7000 possible procedures that can be provided by physicians. In addition, each code may spawn a host of effective additional codes through the use of modifiers that are used to indicate special circumstances or conditions with respect to the service being billed. For this reason, most impact analyses of physician reimbursement changes have been based on either relative value scales that convert all physician procedures to a common measure² or on a select subset of all procedures accounting for a substantial proportion of the total charges for all procedures.³ (Modified procedures are usually excluded entirely as being unrepresentative.)

This convention is often adopted as a practical matter given that the maintenance of "new" fee schedule values in computer memory of the complete array of procedures could soon prove overwhelming. In this analysis, however, an alternative approach was taken. Rather than create fee schedule values by a single pass of claims data, a multi-pass approach was used. All claims data were sorted by physician specialty, HCPCS code and modifier. A second pass through the sorted data set was used to determine the total allowed charges by specialty and in aggregate for each HCPCS code with or without modifiers. A third pass through the data was used to append the specialty specific and statewide average allowed charges for each procedure/modifier combination. These data were then resorted by provider identifier to reestablish a practice specific data base. The resulting "four pass" data set was used as the basis for the simulations.

² M.S. Marquis, D.P. Henry, et al., A Model to Simulative Alternative Medicare Physician Reimbursement Methods, (Washington, DC: RAND Corporation, 1986); U.S. Congress, Congressional Budget Office, Physician Reimbursement Under Medicare: Options for Change, (Washington, DC: Congressional Budget Office, April 1986).

³ U.S. Congress, Office of Technology Assessment, Payment for Physician Services: Strategies for Medicare, OTA-H-294 (Washington, DC: U.S. Government Printing Office, February 1986); U.S. Congress, Congressional Budget Office, Physician Reimbursement Under Medicare: Options for Change, (Washington, DC: Congressional Budget Office, April 1986).

Six different types of assumptions were tested in the form of fee schedule simulation analyses. The first involved estimation of the specialty specific average allowed charge for each procedure/modifier. Payment reallocations were estimated assuming reasonable charges were set at the fee schedule amount in each case in lieu of the actual reasonable charge recorded on each claim. A second alternative involved reasonable charges set at the lower of the fee schedule amount or the billed charge. (Currently, roughly 18 percent of claims are submitted with billed charges at or below the lower of customary or prevailing charges.) The third and fourth alternatives tested were analogous to the first two, except that speciality distinctions were not maintained in estimating average allowed charges. All physician practices that had billed for a particular procedure were included in estimating average allowed charges.

The last two alternatives involved a modest proposal that by design could be expected to reduce average payment levels. As in alternatives 1 and 3, average allowed charges would be estimated from the history data, with or without specialty distinctions, respectively. However, these "unadjusted" averages were used for the fee schedule simulations only when below \$100. "Adjusted" fee schedule amounts for all other services were established as the greater of \$100 or 90 percent of the estimated average allowed charge.

The modest proposal involves a number of arbitrary limits. \$100 was chosen as the cutoff because it is a round number, unlikely to be misunderstood by physicians, beneficiaries, carriers, or policymakers. National⁴ and such state data as are available suggest that 30-40 percent of medicare charges reflect services where the allowed charge or average allowed charge exceeds \$100. One would expect such a cutoff to affect surgery more than primary care; tilting

⁴ Burney, I., and Schieber, G. "Medicare physicians' services: the composition of spending and assignment rates," Health Care Financing Review, vol. 7, Fall 1985, pp. 81-96.

the resulting fee schedule somewhat toward cognitive services and away from procedural ones. At the same time because of the correlation between assignment rates and the average allowed charge per service, increases in beneficiary non-assigned liability accompanying a reduction in allowed charges might be expected to be smaller for services with high average allowed charges compared to less expensive services. (Data reported elsewhere in this report suggest that assignment may be more affected by other characteristics of the physicians' practices than by Medicare allowed charges. Unassigned liability therefore might not be significantly changed for either relative high or relatively low priced services.)

Other Fee Schedule Simulation Results

Two recent studies have simulated a conversion of physician payments from CPR to fee schedules.⁵ A wide variety of fee schedule simulations was conducted during the course of the Congressional Budget Office project, one of which involved statewide, budget neutral fee schedules. The Juba project conducted for the Office of Technology Assessment specifically examined statewide fee schedules based on average allowed charges using the 1983 South Carolina Medicare data base.

Although of interest, the CBO study involved a much different approach to budget neutrality than that employed in this analysis. In the CBO study, average billed charges were computed from a sample of 39 states⁶ using the BMAD procedure file. From this a national relative value scale was constructed. In estimating statewide, budget neutral fee schedule impacts, the BMAD provider file was used to determine the total number of relative value units billed within each state

⁵ U.S. Congress, Congressional Budget Office, Physician Reimbursement Under Medicare: Options for Change, (Washington, DC: Congressional Budget Office, April 1986); Juba, D., "Analysis of issues relating to implementing a Medicare physician fee schedule," prepared for the Office of Technology Assessment, U.S. Congress, Washington, DC, November, 1985.

⁶ Substate jurisdictions from two other states were also excluded, leaving roughly two-thirds of all allowed charges represented by the final sample.

in the sample. Given the total allowed charges from each state's sample, a conversation factor was calculated to assure budget neutrality. The resulting reallocations based on a statewide fee schedule would thus depend on the specialty mix within each state's BMAD provider sample, and national relative differences between specialties in the ratio of allowed charges to billed charges. Because this ratio is relatively low for medical services and relatively high for surgical services, one would expect a reallocation of funds away from surgical specialties and in favor of medical specialties. In fact, the CBO reports that GPs and FPs would exhibit increases in allowed charges of 13.4% and 12.9%, respectively. Allowed charges for internists would increase by 1.2% while other medical subspecialties as a whole would decrease by .4%. Allowed charges for surgical specialists would decrease by 4.6%.

In both the current analysis and the Juba study, budget neutrality is maintained with respect to each procedure. The only estimated reallocations between specialties would be expected to occur with respect to those services that are performed by more than one specialty. For this reason, one would expect relatively small estimated effects on the surgical specialties because the bulk of revenues to such specialists will derive from procedures that are specialty specific.

The Juba study used a subset of 313 physician services for the purpose of a fee schedule simulation. (The CBO study used 258). Data from all of calendar year 1983 were combined to estimate an average allowed charge per service for each physician practice. This may have had the effect of reducing the apparent variation in unit allowed charges across practices. Juba found that GPs and FPs would observe aggregate increases in allowed charges of 16.5% and 11.9%, respectively. Internists would observe a reduction of 7.5%. The remaining 4 (non-medical) specialties studied would observe changes of 1% or less.

Study Results

Aggregate effects of the simulated fee schedule conversions are detailed in appendix Tables A.1 through A.8. Tables A.1 and A.2 document estimated effects by type of service for all specialties combined, using one practice identifier and two practice identifiers, respectively. Tables A.3 through A.8 document fee schedule impacts by specialty for each of the six fee schedule options. In all cases, impacts are reported in terms of 1) the percentage of practices simulated to receive a particular range of financial impacts and 2) the percentage of allowed charges currently allocated to the practices expected to experience a particular range of financial impacts.

If a switch to a fee schedule had been implemented in South Carolina in the latter half of 1983, there would have been reallocations of both beneficiary and Medicare funds. The tables provide considerable detail on individual specialties and types of services. These results are unsurprising for the most part, and only a handful of results stand out. One of these results, however, involves beneficiary liability. In almost all cases conversion to a fee schedule would have involved a net increase in beneficiary liability.⁷ In those cases where aggregate allowed charges would have been reduced, there would also be a reduction in coinsurance liability, but with the exception of only a very few specialties, there were no simulated reductions in beneficiary total liability. Since the fee schedules being simulated are oriented toward average allowed charges, this suggests that practices with above average charges are more likely to have relatively low rates of assignment. This is consistent with previous findings of a positive correlation between practice assignment rates and the

⁷ Most of the tables indicate only the changes in beneficiary unassigned liability. Unassigned liability was selected as the more important measure than total liability because the Medi-gap insurance for the most part does not cover unassigned charges. Hence although changes in coinsurance might not be perceived by beneficiaries because of Medi-gap coverage, changes in unassigned liability will have a direct effect on beneficiary out-of-pocket expenses.

ratio of allowed charges to billed charges. This finding is further confirmed by comparing estimated changes in beneficiary unassigned liability in each of the options where the fee schedule would determine payment as opposed to those options where the payment would be the lesser of the billed charge or the fee schedule. In all such comparisons, program payments would be reduced by paying the lesser of the fee schedule or the bill, but there would be no decrease in unassigned liability.

Table 1a. Estimated Aggregate Changes in Total Beneficiary Liability in Percentages by Type of Service

ALT ^a	TYPE OF SERVICE									
	ALL	MED	SURG	CONS	D-XR	PATH	RAD	ANES	ASSSTS	MISC
1	2.9	3.3	3.2	3.3	1.8	2.2	6.5	1.0	1.2	19.0
2	1.7	2.2	1.8	1.6	0.4	1.3	0.2	0.1	0.3	14.5
3	4.0	5.4	3.5	6.8	2.2	2.6	1.7	1.0	1.3	20.6
4	2.4	3.7	1.6	4.0	0.7	1.5	0.3	0.0	0.3	15.7
5	4.6	3.6	8.0	3.3	1.4	2.2	1.9	1.0	0.2	19.6
6	5.7	5.7	8.1	6.8	1.8	2.6	2.1	1.0	0.3	20.6

^a The alternatives are as follows: 1--retain specialty distinctions, allowed charge equals fee schedule; 2--retain specialty distinctions, allowed charge equals lower of bill or fee schedule; 3--eliminate specialty distinctions, allowed charge equals fee schedule; 4--eliminate specialty distinctions, allowed charge equals lower of bill or fee schedule; 5--retain specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule; 6--eliminate specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule;

Table 1b. Estimated Aggregate Changes in Total Beneficiary Liability in Percentages by Physician Specialty

<u>ALT^b</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Primary Care Specialties						
01 ⁸	3.9	2.5	-3.3	-7.1	4.0	-3.3
08	2.2	1.4	-4.2	-6.5	2.3	-4.2
70	0.6	0.1	-0.3	-1.5	8.6	7.3

<u>ALT^b</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Internal Medicine and Subspecialties						
11	4.2	2.9	11.5	10.4	4.7	11.8
03	2.4	1.3	12.9	10.9	2.3	12.8
06	2.8	1.7	9.3	8.4	5.7	12.2
07	2.4	-0.4	1.5	-0.9	2.6	2.2
10	2.7	1.2	6.5	4.9	3.6	7.2
13	4.0	2.6	9.2	7.8	4.1	9.2
25	-0.3	-1.5	-0.0	-1.2	-0.8	0.0
29	0.1	-0.4	4.9	4.3	0.4	5.1
39	0.3	-0.2	0.2	-0.3	-3.9	-4.0

<u>ALT^b</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Surgical Specialties						
02	3.3	1.2	3.8	1.0	3.5	3.9
04	2.7	1.7	3.8	1.0	6.2	7.2
14	0.6	0.2	1.4	0.9	4.2	5.1
16	4.0	2.1	6.5	3.4	3.6	6.2
18	5.8	4.4	6.0	4.6	15.2	15.4
20	3.5	2.1	4.3	2.8	6.7	7.4
24	3.9	2.7	7.4	6.0	8.3	11.5
33	0.6	-0.3	0.9	-0.4	-3.4	-3.2
34	3.0	1.9	3.8	2.4	7.7	8.6

<u>ALT^b</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Hospital Based Specialties and Psychiatry						
05	1.0	0.1	1.1	-0.0	1.0	1.1
22	0.6	0.5	0.6	0.4	0.6	0.6
30	0.5	-0.4	0.7	-0.3	-0.1	0.1
26	-1.7	-2.6	3.4	2.6	-1.7	3.4

⁸ Specialty identifiers are delineated in the Appendix.

ALT ^b	1	2	3	4	5	6
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All Other Specialties

12	3.8	3.1	-4.8	-8.4	3.7	-4.9
19	0.2	-0.0	3.7	0.1	6.4	5.4
37	2.0	0.5	19.1	7.3	1.7	18.8
41	1.5	0.7	14.3	13.1	1.5	14.3
42	1.7	1.2	15.5	14.7	1.7	15.5
43	-0.8	-1.0	-0.6	-0.9	1.1	-0.9
44	0.8	0.5	6.8	6.6	0.8	6.8
48	6.6	4.4	15.7	12.2	7.0	16.1
58	43.6	33.4	43.3	31.2	43.6	43.3
62	0.0	0.0	10.0	10.0	0.0	10.0
65	6.1	-1.7	8.7	1.0	6.1	8.7
69	0.0	-1.3	1.2	-1.0	-0.2	0.9

^b The alternatives are as follows: 1--retain specialty distinctions, allowed charge equals fee schedule; 2--retain specialty distinctions, allowed charge equals lower of bill or fee schedule; 3--eliminate specialty distinctions, allowed charge equals fee schedule; 4--eliminate specialty distinction tions, allowed charge equals lower of bill or fee schedule; 5--retain specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule; 6--eliminate specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule;

The comparison of results between the Juba analysis and the fee schedule option with no specialty distinctions is quite close. Estimated changes in allowed charges by specialty are displayed below:

Table 2. Estimated Aggregate Changes in Allowed Charges by Specialty: Fee Schedule without Specialty Distinctions

Specialty	Juba	Mandex
GP	+16.5	+15.7
FP	+11.9	+12.4
Internal Medicine	-7.5	-6.9
General Surgery	+1.0	+1.2
Ophthalmology	+0.1	0
Orthopedics	-0.6	-0.6
Radiology	-0.2	-0.2

Where the two simulations differ is in the distribution of results. Juba's results show a substantial proportion of practices with relatively small changes in allowed charges. The Mandex analysis finds relatively smaller proportions of practices with small aggregate reimbursement changes and relatively larger proportions of practices with reimbursement changes in excess of 10 percent. These data are displayed below. These differences may be due to the averaging out of differences between relatively high and low cost providers that occurred in the Juba study when fee screen years 1983 and 1984 were combined. It might also be due to the exclusion of low frequency and modified procedures where allowed charges may be more erratic.

Table 3. Distribution of Estimated Changes in Allowed Charges by Specialty:
Fee Schedule Without Specialty Distinctions

	JUBA			MANDEX		
	Loss >10%	Change <10%	Gain >10%	Loss >10%	Change <10%	Gain >10%
GP	0.4	80.5	19.0	<1	23	77
FP	1.4	87.2	11.3	<1	34	66
Internal medicine	14.3	84.3	4.6	40	52	7
General surgery	0.9	88.8	10.3	1	85	14
Ophthalmology	1.0	89.3	9.8	1	80	19
Orthopedica	0	90.4	9.6	2	87	11
Radiology	0	95.2	3.8	1	93	6

Aggregate Results

Aggregate results by type of service are displayed in Table 4, below. This table can be read as follows: for alternative 1 for all services, beneficiary unassigned liability would increase by 7.3 percent, while allowed charges would remain unchanged. For this alternative, unassigned liability for surgical services would increase by 10.5 percent, while those resulting from anesthesia services would increase by 1.8 percent.

Table 4. Simulated changes in beneficiary unassigned liability (first line) and allowed charges (second line) by type of service and fee schedule alternative

ALT ^C	TYPE OF SERVICE									
	ALL	MED	SURG	CONS	D-XR	PATH	RAD	ANES	ASSTS	MISC
1	7.3	7.3	10.5	8.8	9.6	3.2	7.2	1.8	4.7	39.5
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	7.3	7.3	10.5	8.8	9.6	3.2	7.2	1.8	4.7	39.5
	-2.1	-2.1	-2.1	-2.7	-1.7	-2.8	-1.6	-2.1	-1.1	-8.8
3	10.1	11.8	11.3	18.1	11.9	3.8	8.2	1.8	5.2	42.7
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	10.1	11.8	11.3	18.1	11.9	3.8	8.2	1.8	5.2	42.7
	-2.8	-3.2	-2.7	-4.4	-1.9	-3.5	-1.7	-2.1	-1.3	-9.4
5	17.4	8.6	46.7	8.8	13.4	3.2	10.5	1.8	30.9	41.3
	-4.0	-0.7	-9.0	9.0	-1.4	0.0	-0.3	0.0	-9.7	-0.6
6	20.0	13.1	47.1	18.1	16.0	3.8	11.4	1.8	31.0	42.7
	-4.0	-0.7	-9.0	0.0	-1.5	0.0	-0.3	0.0	-9.7	0.0

- ^c The alternatives are as follows: 1--retain specialty distinctions, allowed charges equals fee schedule; 2--retain specialty distinctions, allowed charge equals lower of bill or fee schedule; 3--eliminate specialty distinctions, allowed charge equals fee schedule; 4--eliminate specialty distinctions, allowed charge equal lower of bill or fee schedule; 5--retain specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule; 6--eliminate specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule;
-

By design, there would be no aggregate change in allowed charges for alternatives 1 and 3. By coincidence, beneficiary liability for all services increases moving through alternatives from number 1 to number 6. Excluding the miscellaneous services, which account for less than 1 percent of all allowed charges, the biggest changes in either allowed charges or unassigned liability would occur with respect to surgical services and assistance at surgery. In particular, those are the services that would be most affected by reducing average allowed charges in excess of \$100.

With respect to the six options, option 2 would probably be the least disruptive because specialty differentials would be maintained, above average allowed charges would be reduced, but charges submitted below customary limits would not be increased. The net effect would be a reduction of allowed charges of 2.1 percent while beneficiary unassigned liability would increase by 7.3 percent. This is the smallest increase in such liability for all services of any of the options, and no increase in unassigned liability would be caused by not raising those fees currently below customary limits. In fact; aggregate total beneficiary liability would be reduced moving from option 1 to option 2 because the net reduction in allowed charges implies a net reduction in beneficiary coinsurance liability.

Because of the skewedness of the distribution of annual allowed charges, both options 1 and 2 would exhibit mainly small redistributions of allowed charges under these types of fee schedules. In each specialty, 10-15 percent of the practices account for 50 percent of allowed charges. Not

surprisingly, those practices will determine the level of the average for any service provided by the relevant specialty. Paying at the average will thus not be much of a change for those practices. As can be seen in Tables A.3 and A.4, the bulk of the practices and the overwhelming bulk of practices weighted by current allowed charges would experience small reductions, namely, less than 5 percent. Because of the relatively small reallocations, and the possibility for savings, option 2 might be a relatively uncontroversial first step in a fee schedule conversion process.

Eliminating specialty differentials would produce redistributions primarily involving the medical specialty groups. General practitioners and family practitioners would see substantial gains in allowed charges, while internists and the internal medical subspecialties would experience declines. Partly for this reason, beneficiary unassigned liability would increase in moving from option 1 to option 3. There would also be a net increase in the change in total beneficiary liability in moving from option 1 to option 3 for all services combined and for medical care services in particular, of 1.1 percent and 2.1 percent, respectively. (See Table 1.)

C. OLD SECTIONS



MANDEX, INC.

Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

February 14, 1986

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report
Contract No. 500-85-0023
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for February.

Continuing Physician Allowed Charge Distributions

Since our last progress report, we have begun preparing additional computer programs to examine beneficiary counts and HCPCS code counts of individual physician practices to be able to examine the characteristics of practices with particularly high or low allocations of Medicare allowed charges. In addition, we have prepared a program to provide cumulative distribution information on assigned allowed charges, unassigned allowed charges, and beneficiary unassigned liability.

In preparation for this work, the complete claims files from the four carriers for 1983 have been sorted by specialty and practice identifier. Two additional but separate sorts further partition the data by beneficiary HIC, and by HCPCS code and modifier.

The sorted data files for Minnesota have been used to develop the initial display programs. Incidental preliminary results suggest that a substantial number of practices indicate specialties 87 and 99. The 99 type of practice appears to be a special type of laboratory. The cumulative distributions of allowed charges, assigned allowed charges, and beneficiary unassigned liability did not appear to differ appreciably in an initial run of the distribution program, but this is being revised to examine specialty differences that may have been masked in the aggregate data. Finally, one very tentative inference based on incomplete Minnesota data suggests that HCPCS codes with the initial three digits 669 play an overwhelming role in the reimbursement of ophthalmologists. Data from the 51 ophthalmology practices in Minnesota are displayed in the attachment.

Mr. Benson Dutton

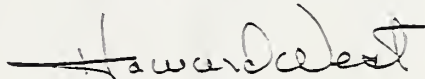
- 2 -

February 14, 1986

Further, there was a clear correlation between the total allowed charges for the ophthalmology practice and the percentage of allowed charges for the 669 codes.

More complete results should be available for our next report.

Sincerely,

A handwritten signature in dark ink, appearing to read "Howard West", with a horizontal line extending from the left side of the signature.

Howard West
Project Director

HW:fki

cc: Marian Webb



OPHTHALMOLOGY MEDICARE PRACTICES
MINNESOTA BLUE SHIELD 1983

PRACTICE	ALLOWED-K	669 %	66980 %	PRACTICE	ALLOWED-K	669 %	66980 %
1	445	61.8	58.1	31	63	65	42.6
2	401	70	67.6	32	62	58.9	41.8
3	383	70.2	65	33	45	62.9	51.2
4	301	71.3	70.1	34	30	0	0
5	301	50.5	44	35	30	82.3	76.8
6	285	84.7	78.1	36	29	56.4	45.5
7	260	68.5	59.2	37	26	14.6	14.6
8	258	66.6	59.9	38	25	69.3	59.4
9	255	67.3	56.8	39	22	55.9	44.5
10	252	81.6	75.7	40	21	46.8	26
11	237	69.5	59.1	41	20	43	27.7
12	214	68.3	61.2	42	16	72.7	67.9
13	205	59.9	50.2	43	15	0	0
14	198	67.7	62.1	44	7	70.1	70.1
15	171	72.4	56	45	6	0	0
16	169	72.5	71.1	46	0.5	0	0
17	152	71.7	64.6	47	0.2	0	0
18	151	26.9	14.2	48	0.2	0	0
19	143	77.6	72.9	49	0	0	0
20	142	61.7	46.5	50	0	0	0
21	129	69.9	63.1	51	0	0	0
22	127	72.1	65.1				
23	114	44.9	26.6				
24	110	76.3	71.7				
25	109	46.3	28.2				
26	94	60.5	53.8				
27	92	63.3	58.5				
28	86	77	71.8				
29	73	79.4	74.1				
30	63	66.7	47.3				

ALLOWED-K 669 % 66980 %

TOTAL \$	6337.9	4185.8	3712.7
AVERAGES	124.3	66	58.6

CORRELATIONS:

\$ + 669	\$ + 66980
0.513	0.508



MANDEX, INC.

Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

January 21, 1986

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report
Contract No. 500-85-0023
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report.

Initial Hi and Low Doc Distributions

We have prepared initial computer runs to display data on the distribution of allowed charges with respect to individual physician practices. A presentation of some of these results was made in Baltimore on January 17, 1986.

The most remarkable aspect of these data is the uniformity across the four carrier areas in terms of the concentration of allowed charges among the largest practices and, at the other extreme, the concentration of practices in the single smallest percentile of allowed charges. In each area, 8 percent or less of the practices account for 50 percent of allowed charges. In each area, the smallest percentile of allowed charges includes at least 30 percent of the practices -- and up to 61 percent as in the Dakotas. (See Figure 1.)

One of the problems in assessing these distributions derives from the differences in the identification of individual practices -- whether based on an individual physician's Social Security number, a practice Employer Identification number, a carrier assigned provider number, or some combination of identifiers. We have found that the basic shape of the distributions are unchanged when alternative identifiers are used. In South Carolina, where individual Social Security numbers are available, distributions were prepared based on individual physicians, individual practices, and the intersection of Social Security numbers and Employer Identification numbers. (See Figure 2.)

For each of the South Carolina distributions, we computed a Gini coefficient, a measure of the equality of the distribution. This statistic takes on a value of 0.0 for a perfectly equal distribution, and the value approaches 1.0 as the distribution becomes more skewed. Using 20 intervals from the cumulative distribution of percentages of allowed charges across percentages of practices, the Gini coefficients were as follows:

January 21, 1986

<u>Identifier</u>	<u>Gini</u>
SSN only	.62351
EIN only	.66934
SSN + EIN	.70012

In switching from an SSN to an EIN, the distribution of allowed charges appears to become more skewed. In switching from an SSN only to the combination of both an SSN and an EIN, the distribution becomes even more skewed as fractions of an individual physician's practices get counted as practices.

The BMAD provider files were requested of the carriers in EIN order. (This appears to have been what was submitted by Washington, the Dakotas, and Minnesota Blue Shield. South Carolina appears to have submitted data by individual SSN and EIN combinations.) Given the skewness of the distributions, the BMAD provider samples may represent a good sample of all practices, but not necessarily a good sample of those practices which provide the majority of allowed charges.

In the next month, we will attempt to identify characteristics of those practices which represent the bulk of allowed charges.

Sincerely,



Howard West
Project Director

HW:fki

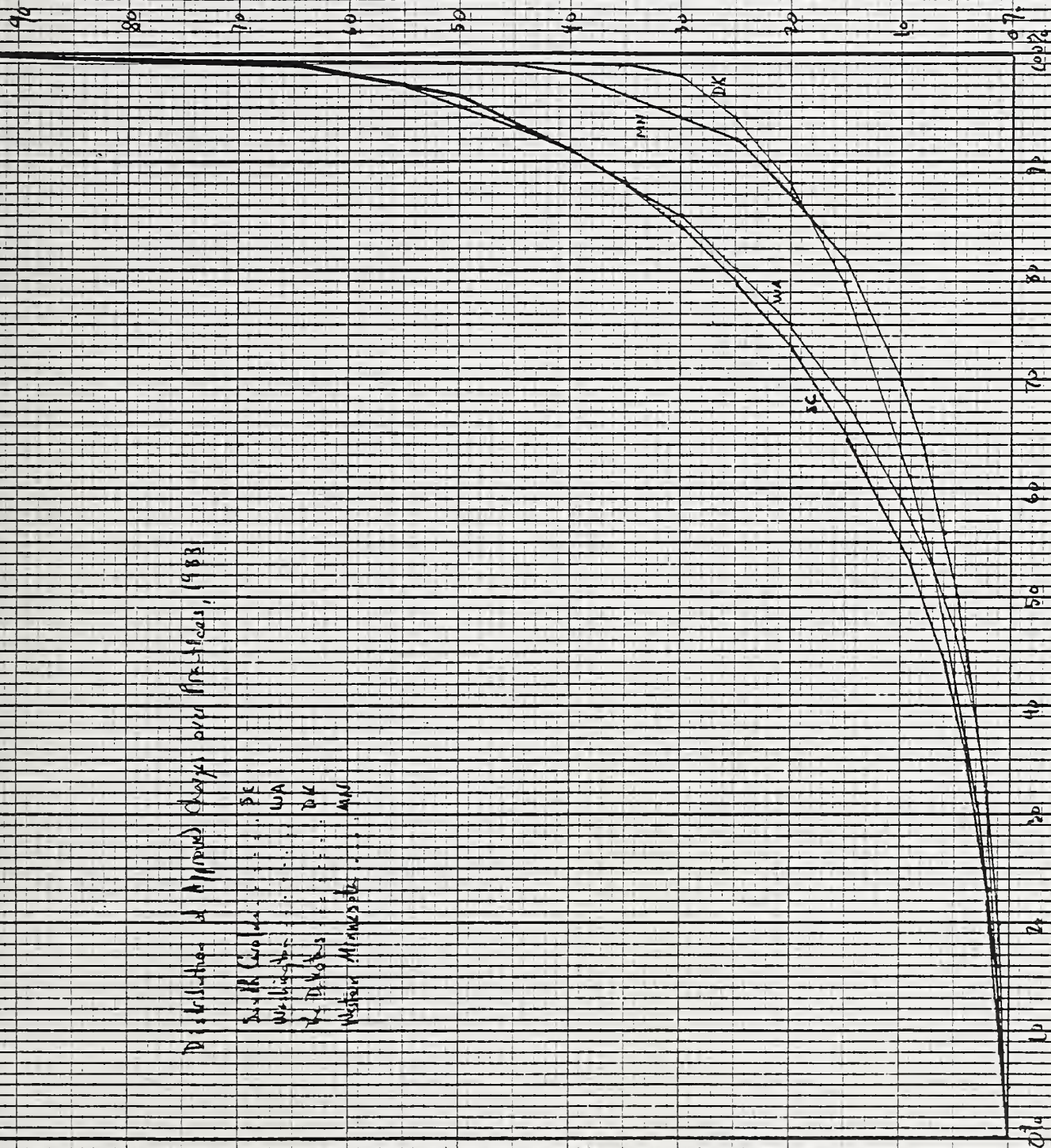
cc: Marian Webb

Distribution of Approved Charges over Practices, 1983

DE
 WA
 DK
 MA

Practices

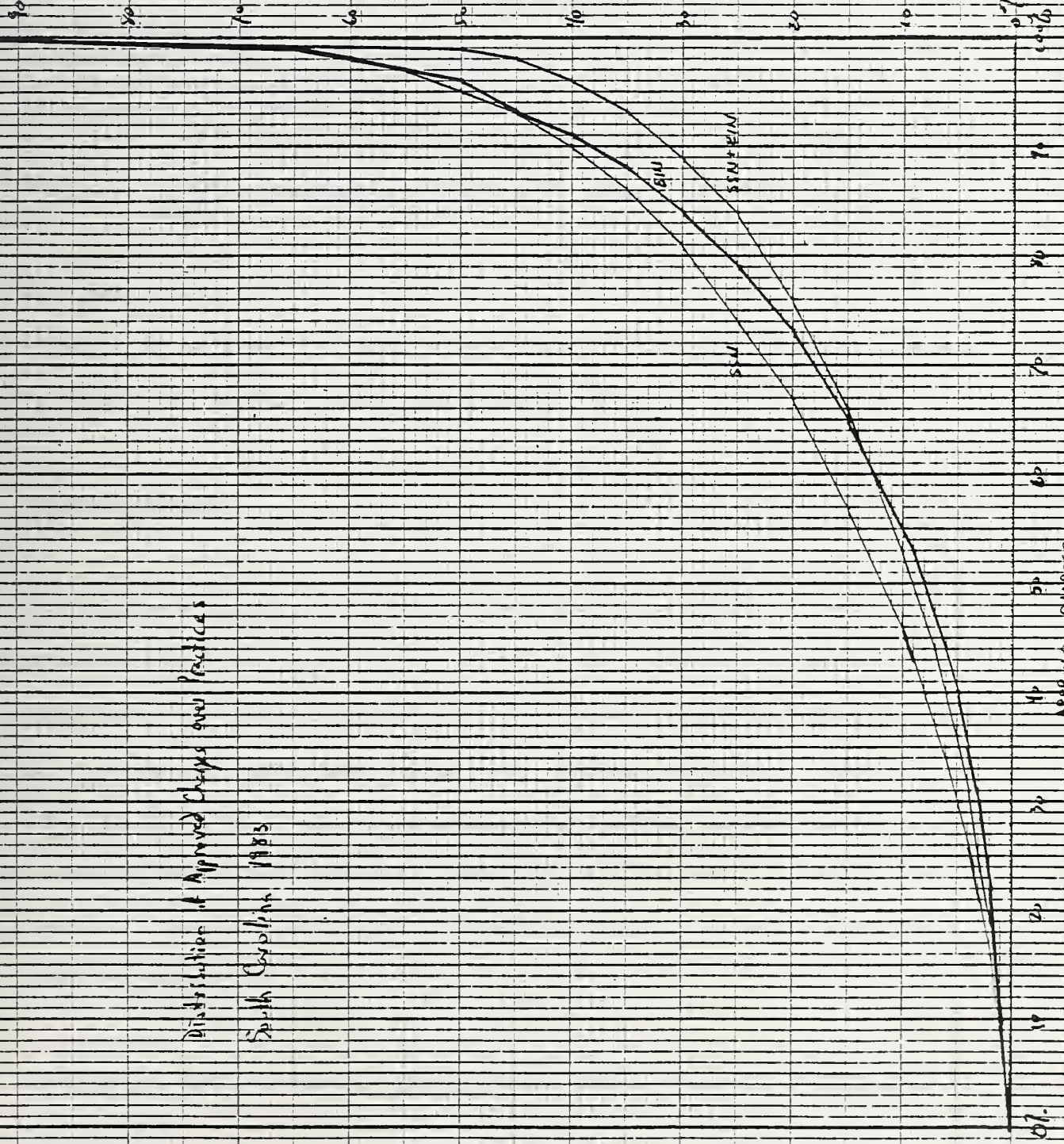
Approved Charges



Distribution of Approved Clays and Practices

South Carolina 1983

PRACTICES





MANDEX, INC.

Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

December 17, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (November)
Contract No. 500-85-0024

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for November 1985.

Provider Numbers

A significant amount of time during the month was spent in trying to establish the best consistent set of provider numbers to identify physicians or physician practices for the analysis of distributions of allowed charges, assignment rates, etc. across practices. South Carolina appeared to offer the best testing ground because they use a 24 character identifier which is a combination of a practice identifier, a practice location identifier, a physician SSN or EIN, and a physician practice enumerator.

Sorting the data by various partitions produced the following counts of "practices:"

SSN/EIN only	2883
SSN/EIN, Practice ID, Location ID	5149
Practice ID only	3641

All 24 characters

5219

Unfortunately, not all carriers maintain such a degree of disaggregation on all claims, and some that maintain what appears to be a comparable level of disaggregation with both an SSN/EIN and provider identifier may not, in fact, provide any additional information above that of either identifier. The Dakotas, for example, exhibit 2418 practices regardless of whether the SSN/EIN field or the practice identifier is used to identify practices.

We believe that the SSN/EIN field is most likely to be consistently available from the carriers in our sample and other carriers as well, so we will use this field plus practice specialty to delineate practices. Given the additional identifying fields available in South Carolina, we will replicate our distributions of allowed charges, numbers of HCPCS codes, numbers of beneficiaries, and assignment rates using each of three possible combinations of identifiers to establish whether the finer partitions available in that State make a qualitative difference in the distributions.

BMAD Providers

In our initial examination of the BMAD provider files, we discovered that there was not uniformity in the selection of types of provider

identifiers across the four carriers. South Carolina and the Dakotas appear to use the SSN/EIN numbers as per BMAD file specifications. Minnesota Blue Shield, however, clearly used its own provider identifiers. Washington used 8 out of 9 digits from the SSN/EIN number coupled with a single digit that appears to reflect either legal form of organization or group status or both plus locality or other type of practice information.

As these and other findings or anomalies have become evident we have communicated them directly to either Edie Fisher or Earl Swartz to keep them apprised of new developments and to determine whether the HCFA staff involved in BMAD maintenance have identified comparable phenomena in their examinations of the data.

To compare the data we used a program that computed total and average allowed and billed charges for each practice. Very few of the comparisons between BMAD and the 100% data were exact, although there were some. What was encouraging was that the practice specialties in both files were mostly identical in both files, and that the relative magnitudes of total and average charges for each matched practice were comparable in each file.

What was initially somewhat surprising was the specialty distribution observed in the four carrier jurisdictions. Not only are there many non-physician practices included in the files, in Minnesota, in particular, there are only a few observations which do not involve other than physician practices. The distributions are displayed in the attached table.

Specialty Distribution in 1983 BMAD Provider Files

<u>Specialty</u>	<u>Minn</u>	<u>Carrier Dak</u>	<u>SC</u>	<u>Wash</u>
GP	3	3	7	9
Gen Surgery	1	2	3	1
Otolargnology			1	
Anesthesiology			1	2
Cardiology		1		1
Dermatology			1	1
Family Practice	2	3	4	
Internal medicine		2	4	9
OBGYN		3	4	1
Ophthalmalogy		1	3	3
Orthopedic surgery			4	5
Psychiatry	2		2	5
Pulmonary disease			1	1
Radiology		1	1	2
Thoracic surgery		1		
Urology			2	2
Clinic	2	1		2
Dentist	1	1	2	1
Chiropractor	4	2	1	8
Podiatry	2			
Medical supplier			2	2
Individual supplier		1	2	
Ambulance		2		1
Psychologist			1	1
X-ray service	1			
Drugstore and other	9	2	2	
Unkown	1			
Total MDs	8	17	36	42
Total MDs excluding Psych	6	17	34	37
Total practices	28	26	47	57

12/17/85

What was initially somewhat surprising was the specialty distribution observed in the four carrier jurisdictions. Not only are there many non-physician practices included in the files, in Minnesota, in particular, there are only a few observations which do not involve other than physician practices. The distributions are displayed in the attached table.

Sincerely,



Howard West
Project Director

HW:PM

cc: Marian Webb



Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

November 9, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (October)
Contract No. 500-85-0024
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for October 1985.

Distribution of Allowed Charges Across CPR Limits

Data for three of the four carriers has been processed against a program (PAY1) which compares the allowed charge on each claim to fields designed to represent the billed charge, the customary charge, and the prevailing charge. Prints of the outputs from this program have been delivered to the Project Officer with an additional copy to be sent to Ira Burney.

The PAY1 program is heirarchical. First, the allowed charge is compared to the billed charge. If there is a match, the claim is assigned to the "billed" category. Where there is no match, the allowed charge is compared to the customary charge. Where there is a match, the claim is assigned to the "customary" category. If there is still no match, the allowed is compared to the prevailing. Where there is a match, the claim is assigned to the "prevailing" category. If there is still no match, the modifier field is examined. Where no modifiers are present, the claim is assigned to one of four categories based on the presence of non-zero entries for the customary and prevailing charges.

The distribution of assignment by type of service and carrier is summarized on the attached Table 1. The greatest consistency in Table 1 involves the category of claims where the allowed charge equals the billed charge. For the most part, from 12 to 20 percent of both allowed charges and services are paid at the billed charge. (Nationally, 18% of claims are not subject to a reduction via one of the CPR limits.) Also, for the most part, the percentage of allowed charges in this category is less than the percentage of services. This is consistent with services in this category being the relatively inexpensive ones.

Once beyond the "billed" category, there is evidence consistent with deficiencies in the 100% claims files in the customary and prevailing charge fields for both the Western Minnesota and Dakota carriers. For the Dakotas, for types of service 1-3, no claims have allowed charges equal to the prevailing charge field. In fact, most claims have a zero in that field, as indicated by the large percentage of claims in the CYPN and CNPN categories.

For Western Minnesota, visual inspection of a sample of records indicated that the allowed charge was often less than both of the fields recorded for customary and prevailing charge. In addition, customary and prevailing charges were not observed to differ between the two fee screen years in 1983 even though the allowed charge did change in July of that year. We believe that the carrier prepared this particular data base by merging beneficiary history information with the charge screens from one of the two fee screen years. In addition, the prevailing charge field was filled using the 75th percentile of customary charges rather than the relevant adjusted prevailing charge. (The percentage increase in allowed charges for a limited office visit between the two fee screen years in 1983 was virtually identical to the percentage increase in the Medicare Economic Index between fee screen years 1983 and 1984.)

The South Carolina data appears to be plausible in their distributions, although a relatively small proportion of services and allowed charges are established by the prevailing charge level compared to conventional expectations given the Medicare Economic Index. Unlike the results from the Dakotas and Western Minnesota, we do not believe this is a data problem.

Relatively high proportions of allowed charges for visits and consultations are priced at the prevailing, particularly compared to surgery. This may imply that there is more latitude for escaping the constraints of the MEI where the service in question did not exist in 1971. These results may also reflect South Carolina's relatively easy conversion to CPT-4. The availability of new codes may also have contributed to relatively low levels of constraint by prevailing charges.

Physician DRG - Hospital Effects

Using the 1981 South Carolina linked Part A and Part B data, we have produced an analysis examining the independence of hospital-specific versus DRG-specific effects on average total allowed charges for both Part A and Part B. In short, there are statistically significant hospital-specific effects. This result might be caused by consistent urban/rural price differences, consistent intra hospital differences in efficiency, or consistent differences in case-mix severity. At present, we would not be able to distinguish between these competing hypotheses. Only if the second hypothesis is correct would physician DRGs make sense.

Basically, the statistical comparisons involve the computation of F-statistics using a series of equations adapted by Leo Marcus from a discussion of analysis of variance in D. L. Harnett, Introduction to Statistical Methods, (Reading, Moss: Addison-Wesley Publishing Co., 1975). These equations (see attachment - Figure 1) partition observed variance into a DRG component, a hospital component



November 9, 1985

an interaction term, and an error term. The problem is a complicated one given the relatively large number of empty DRG-hospital cells. There are 71 hospitals and 415 DRGs in the data set ($71 \times 415 = 29,465$) but only 12155 non-empty cells. Some of these cells contain very small entries.

The results are presented in Table 2. All of the estimated effects are statistically significant by conventional standards but the F-statistics estimated for the interaction effects are not sufficient (given the sample sizes) to be considered meaningful.

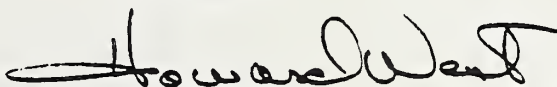
For the most part, the significance of the DRG effects and hospital effects are comparable. The results from the examination of surgical DRGs only suggest that the DRG effect is of greater statistical significance than the hospital effect.

The results are consistent with our previous regression results on DRGs in that the greater range in the surgical average charges makes the surgical DRG effects appear to be greater than the medical DRG effects.

The finding of significant hospital effects on both hospital and physician charges provides a challenge to prospective payment. It suggests there are consistently expensive and consistently inexpensive hospitals and hospital medical staffs. If the differences are due solely to differences in efficiency, the PPS incentives may tend to produce good outcomes. However, if the differences across hospitals are due to cost of living differences or case mix differences, the PPS incentives may tend to produce inequitable outcomes.

The F-statistics presented only indicate the relative strength of the effects, not their magnitude. In work under the ASPE contract, we may be able to extend these results to ascertain the magnitudes.

Sincerely,



Howard West
Project Director

HW:fki

cc: Marian Webb

TABLE 1. PERCENTAGE DISTRIBUTION OF ALLOWED CHARGES AND SERVICES OVER CPR LIMITS

Type of Service	Billed			Customary			Prevailing			Modifier			CYPN			CNPY			CNPN			CYPY		
	S	D	M	S	D	M	S	D	M	S	D	M	S	D	M	S	D	M	S	D	M	S	D	M
V	16.6	17.1	5.0	71.0	0	.6	0	0	0	6.0	*	.1	0	0	0	0	0	3.7	.3	88.9	8.4	6.0	0	82.3
	19.5	13.2	5.5	69.5	0	.6	0	0	0	5.4	*	.1	0	0	0	0	0	3.7	.3	86.8	8.3	5.4	0	81.8
1	15.8	17.2	14.7	24.3	14.7	11.4	54.5	0	.5	1.6	.6	.6	1.7	56.6	*	0	0	1.9	.5	11.0	1.6	1.6	0	69.3
	14.5	17.3	21.6	21.4	12.8	7.7	57.9	0	.2	2.1	.3	.5	2.0	60.2	*	0	0	1.8	.4	9.4	1.6	1.7	0	66.5
2	16.1	11.9	9.5	47.6	15.1	7.5	26.9	0	*	3.9	3.7	5.9	.7	38.6	.7	0	0	9.5	4.0	30.7	3.2	.8	0	63.6
	30.2	23.2	24.7	32.4	11.0	9.3	22.2	0	.3	12.1	4.3	14.5	.5	32.6	.6	0	0	9.4	1.9	28.9	2.2	.7	0	39.0
3	12.8	17.6	19.6	26.7	19.0	16.3	57.3	0	.4	.1	.3	.3	1.5	50.2	*	0	.2	5.3	.2	12.7	13.4	1.4	.1	44.6
	17.0	22.8	27.1	29.7	18.6	17.1	49.9	0	.4	.2	.3	.3	1.5	44.8	*	0	.4	6.0	.3	12.9	8.7	1.4	.2	40.3
4	15.5	23.2	38.6	38.6	15.6	9.7	38.3	18.1	*	.2	4.7	.4	1.2	.9	15.0	0	10.6	4.7	1.2	1.4	6.4	5.0	25.6	25.1
	13.8	15.7	61.4	40.8	20.8	5.3	37.6	28.2	*	.1	1.6	.3	.4	.3	14.7	0	8.5	2.1	.5	.5	4.1	6.8	24.6	12.0
6	12.2	34.2	63.6	32.4	22.4	4.3	46.5	18.3	0	1.5	1.1	.4	.7	3.4	17.2	0	4.0	2.5	1.2	12.0	10.2	5.6	4.5	1.7
	12.1	36.1	54.4	33.4	20.4	5.1	45.0	15.8	0	.8	1.4	.6	.4	3.9	22.3	0	2.8	2.1	.8	16.2	12.7	7.5	3.5	2.8
5	25.3	27.4	25.3	27.7	29.5	19.1	30.5	.2	.7	1.5	.4	.5	2.6	20.3	2.9	0	2.6	2.5	1.1	12.7	1.6	11.1	6.9	47.4
	27.7	27.3	27.4	24.6	26.7	15.6	30.5	.2	.3	1.1	.2	.3	3.8	25.1	1.7	0	1.8	1.8	1.1	12.3	2.2	11.3	6.6	50.9
7	6.8	11.8	-	*	0	-	0	0	-	93.2	1.0	-	0	0	-	0	0	-	0	81.2	-	0	0	-
	8.6	21.1	-	*	0	-	0	0	-	91.4	.8	-	0	0	-	0	0	-	0	78.1	-	0	0	-
8	12.7	11.1	20.6	*	5.1	0	0	0	0	87.3	2.9	78.1	0	28.6	0	0	0	0	0	52.4	.5	0	0	0
	14.8	12.9	21.4	*	3.9	0	0	0	0	85.2	2.5	78.2	0	20.0	0	0	0	0	0	60.7	.5	0	0	0

* Less than 0.1% S-South Carolina, D-Dakotas, M-(Western) Minnesota

CYPN -- Claims where allowed charge \neq billed, customary, no prevailing charge on record
 CNPY -- Claims where allowed charge \neq billed, prevailing, no customary charge on record
 CNPN -- Claims where allowed charge \neq billed, no customary or prevailing charge on record
 CYPY -- Claims where allowed charge \neq billed, customary, prevailing

TABLE 2. ANALYSIS OF VARIANCE IN CHARGES - SOUTH CAROLINA 1981
(entries are F-statistics)

All Cases (415 DRGs, 76,774 Observations)

	<u>Hospital Effect</u>	<u>DRG Effect</u>	<u>Interaction</u>
<u>Physician Charges</u>			
Lead submitted	570.92	582.17	4.76
Lead allowed	801.04	954.37	6.34
All submitted	591.77	517.48	4.12
All allowed	686.91	681.30	4.67
Assigned submitted	200.98	176.71	2.41
<u>Hospital Charges</u>	67.35	66.11	1.85

Medical DRGs only 200 DRGs 48,379 Observations

<u>Physician Charges</u>			
Lead submitted	66.17	51.08	1.45
Lead allowed	58.83	58.61	1.45
All submitted	102.09	55.65	1.49
All allowed	96.57	60.27	1.49
Assigned submitted	66.55	40.08	1.44
<u>Hospital Charges</u>	31.92	26.07	1.31

Surgical DRGs only 215 DRGs 28,395 Observations

<u>Physician Charges</u>			
Lead submitted	195.91	335.92	4.20
Lead allowed	287.25	572.50	5.80
All submitted	198.27	290.15	3.28
All allowed	226.74	386.58	3.76
Assigned submitted	80.27	105.85	1.95
<u>Hospital Charges</u>	29.92	71.26	2.17

FIGURE 1

LET y = value of the p^{th} data record
 P = total number of data records
 Q = number of columns
 R = number of rows
 P_q = number of data records in column q
 P_r = number of data records in row r
 Y = sum of the values of the $P(\text{all})$ data records
 Y_q = sum of the values in column q
 Y_r = sum of the values in row r
 $Y_{r,q}$ = sum of the values for cell (r,q)
 $P_{r,q}$ = number of values for cell (r,q)

$$\text{SS Columns} = \sum_{q=1}^Q P_q \left(\frac{Y_q}{P_q} - \frac{Y}{P} \right)^2$$

$$\text{SS Rows} = \sum_{r=1}^R P_r \left(\frac{Y_r}{P_r} - \frac{Y}{P} \right)^2$$

$$\text{SS Total} = \sum_{p=1}^P \left(y - \frac{Y}{P} \right)^2 = \sum_{p=1}^P y^2 - \frac{Y^2}{P}$$

Assume no interaction

then $\text{SS ERROR} = \text{SST} - \text{SSC} - \text{SSR}$

If we assume there is an interaction:

$$\text{SS Interaction} = \sum_q \sum_r \left[P_{r,q} \left(\frac{Y_{r,q}}{P_{r,q}} - \frac{Y_q}{P_q} - \frac{Y_r}{P_r} + \frac{Y}{P} \right)^2 \right]$$

$\text{SS Error} = \text{SST} - \text{SSC} - \text{SSR} - \text{SSI}$

ANOVA

<u>Source</u>	<u>SS</u>	<u>df</u>
Columns	SSC	Q-1
Rows	SSR	R-1
Interaction	SSI	(Q-1)(R-1)
Error	SSE	As appropriate
Total	SST	P-1



Surveys and Analysis Group
8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

October 9, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (September)
Contract No. 500-85-0024
Development of MD-DRG Algorithms

Dear Mr. Dutton: .

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for September 1985.

Consistent Type of Service Codes

In examining the 100 percent carrier data to prepare distributions of procedures by total allowed charges, unit allowed charges, and frequencies, it was observed that each of the four carriers had used non-standard codes for type of service, apparently to indicate local payment options. Because it is necessary to separate procedures by type of service code to distinguish surgery from assistance at surgery from anesthesia (and possibly from second opinions), the effect of the local payment codes increased the apparent number of procedure and type of service combinations for which there were records of payment.

In order to alleviate this problem, Muriel Adams and Leo Marcus reviewed the relevant HCPCS procedures to identify possible appropriate TOS codes including a preferred code. Following this they were able to examine the ranges of HCPCS and TOS codes observed in the data to develop an algorithm for translating local codes into a set of codes consistent with the Medicare standards and consistent across all four carriers. A table documenting these algorithms is attached. The basic method is to rely on the codes used in the 100 percent claims data when they correspond to one of the standard Medicare codes listed under the column labelled "Final TOS Permitted & Assigned." If any different TOS code was associated with a specific HCPCS code, it would be translated into the preferred Medicare standard TOS code (indicated by those codes given asterisks in the table). The range of actual codes appearing in the data for each carrier is listed in the right-hand four columns of the table.

Data used in subsequent analyses will first be translated using these algorithms.

Variations in the Distribution of HCPCS/TOS Codes

In our last report, it was noted that substantial fractions of total allowed charges were associated with a relatively small number of HCPCS/TOS codes. This type of result has been reported in previous studies conducted both by Mandex, Inc., and other researchers. What had not previously been documented was the "thin-ness" of the distribution of allowed charges across the opposite end of the spectrum.

A table documenting this distribution is shown below. In each carrier data set, 50 percent of total allowed charges can be represented by 50 or fewer HCPCS/TOS codes. Further, in each state, 90 percent of total allowed charges can be represented by no more than 11 percent of all the HCPCS/TOS codes which are used by any carrier. Finally, for each carrier, the last single percentile -- those codes representing allowed charges beyond the 99th percentile -- absorbs more than half of those codes which are reported.

For example, in the South Carolina data set, there were 6855 distinct HCPCS/TOP combinations observed in 1983. Thirty-seven of those accounted for 50 percent of total allowed charges. Exactly 10 percent -- 685 -- of those codes accounted for 90 percent of total allowed charges; 3031 codes accounted for 99 percent of total allowed charges, leaving 3824 codes or 56 percent of the total to account for the last percentile above the 99th. (In Washington State, 60 percent of the codes -- 5,446 out of 9,051 -- were above the 99th percentile.)

DISTRIBUTION OF ALLOWED CHARGES
BY HCPCS/TOS CODES

CUMULATIVE % of Charges	# OF UNIQUE HCPCS/TOS CODES			
	South Carolina	Washington	Dakotas	Minnesota Blue Shield*
25	4	8	7	4
50	37	50	36	21
75	206	238	167	104
80	294	334	239	152
85	435	496	352	230
90	685	789	554	363
95	1235	1442	1026	663
96	1453	1690	1201	777
97	1756	2039	1438	938
98	2211	2588	1801	1170
99	3031	3605	2422	1576
100	6855	9051	5038	3523

Initial BMAD Procedure File Analysis

We have begun a comparison of the BMAD procedure file data with the 100 percent claims data file for South Carolina for 1983. Although we have not conducted an exhaustive analysis of these data, certain observations are already apparent.



There are some exact matches in the file by HCPCS code for both frequency counts and sums of charges. However, these are not very common. Somewhat more often than not, the BMAD sums exceed those of the 100 percent file. We believe this is primarily a result of the payment year orientation of the 100 percent data. Those files are "light" for November and December especially. It may also be the case that non-Medicare data used in the reasonable charge updating process may have added to the BMAD sums, while such data has not been included in the 100 percent file. There are some instances where the counts from the 100 percent file exceed those in BMAD. This may be a result of the exclusion of outlier charges from the reasonable charge updating process. What is clear, however, is that there is a great deal of concordance between the two files in terms of the orders of magnitude of the sums and in the average allowed charges per service that can be computed from each of the two files.

There is an obvious problem in the South Carolina BMAD procedure file. At this point, it is not clear whether this is a unique problem or one which is common to other carriers. An interpretation of the instructions to the carriers for this file would be consistent with this type of error. In particular, for each procedure code and, each specialty listed for any procedure code, the South Carolina file includes one and only one TOS code and one and only one POS code. Thus, for some surgeries, a variety of non-anesthesiology specialties may be listed as providing only anesthesia services. Similarly, some surgeries exhibit no assistants at surgery, while others may show some specialties providing only assistance at surgery. We believe that the carrier sorted the claims data by HCPCS code and specialty prior to initiation of the counts, and that the POS and TOS codes included in the file represent those of either the first claim or the last claim for the procedure code/specialty combination in question.

The instructions for this file begin as follows:

The Part B Medicare Data File - I (BMAD.I) Procedure file provides calendar year data on procedure codes. In general, this BMAD.I file is an array of every procedure code used by each carrier. This array is in locality, specialty code sequence and ascending order of procedure codes.

The emphasis has been added to the quotation to suggest the interpretation that may have been inferred at the carrier level. Although the data description of the frequency count (field #8) suggests that counts are desired for each procedure code/modifier, locality, specialty, T/S, P/S sequence, the initial description suggests that only procedure codes by locality and specialty sequence are required.

When we begin the physician practice specific analyses, an examination of the provider and beneficiary files will be conducted by comparing the BMAD data and the 100 percent data on a claim-by-claim basis.

Work in Progress

We are continuing to refine the programs for examining the distribution of allowed charges for specific procedures. We were hampered to some extent because



October 9, 1985

the Minnesota data used for the graphing program did not contain locality information. The South Carolina data are based on only one locality, but the carrier maintains 33 separate specialty prevailing charge screens, and many of the 33 partitions involve groups of physician specialties.

We are near completion of a program that will produce displays of the distribution of allowed charges, by procedure code, across the various reasonable charge limits. These displays will indicate the frequency counts and total allowed charges paid at the following limits: submitted charge, customary charge, prevailing charge, and claims processed with a modifier. In addition, counts of incomplete data, i.e., those records missing one or more reasonable charge limits, will be indicated.

Sincerely,



Leonard Greenberg
Vice President

cc: Marian Webb

TABLE OF ALGORITHMS

Range of Procedure Codes	Actual Range of Procedure Codes as Noted in Manual	Final TOS Permitted & Assigned	TOS Codes as Used by Carriers			
			S.C.	Dakotas	Washington	Minnesota
M0001-M0059	M0001-M0059	1	C,1	1,8	1,5	
M0250-M0399	M0250-M0399	1*, 2,7,8	1			
M0525-M0599	M0500-M0599	1* or 5			1,2,5,	
M0600-M0999	M0600-M0625 M0700-M0799 M0906-M9999	1* or 9	C,1	1	1	D,F,1
R0000-R9999	R0000-R8999	1*,4 or 5			1,4,5,9	9
T0000-T0000	T0000-T9999	2* or 8	2			2
10000-69999	10000-69979	2*,7, or 8	2,3,7,8	2,7,8	2,5,7,8,9	F,X,1,2,8
70000-76999	70002-76999	4	F,4	1,2,3,4,5	1,2,4,5,6,7,9	B,Q,4,5
77000-79999	77260-79999	6* or 7	F,4,6,7	6	1,3,4,6,7	B,4,6
80000-88319	80002-88317	5	8,F	1,5,6	1,2,3,4,5,8	5
88320-88339	88321-88332	3	8,F	5	5	5
88340-89999	88345-89399	5	8,F	5	5	B,5,6
90000-90599	90000-90570	1	B,C,F,1	1,2,3	0,1,2,3,4,5,8,9	X,1
90600-90698	90600-90643	3	C,W,3	1,3	1,3	1,3
90699	90699	1	1	1	1,2,3	1
90700-90731	90701-90731	1	1	1	1,2	1
90732	90732	V	1	1	V,1	V,1
90733-92299	90733-92286	1* or 7	C,F,1,7	1,7	1,2,3,5,7,9	A,1,5
92300-92399	92310-92396	9	1	1	1,2,9	9
92400-93279	92499-93277	1* or 7	C,F,1	1,5	1,2,4,5,7,9	B,X,1,2,4,5,9
93280-93499	93280-93309	4	F,1	1	2,5,9	B,4
93500-93599	93501-93570	1*,2 or 7	F,1,7	1	2,5,7	2
93600-93799	93600-93799	1	F,1	1,5	1,3,5,9	1,5
93800-93999	93850-93960	1* or 4	F,1	1	1,2,4,5	5
94000-99069	94010-99065	1 or 5*	C,D,F,1	1,4,5	1,2,3,4,5,9	B,D,1,5,9
99070-99099	99070-99090	9	1	1	1,2,9	9
99100-99999	99150-99199	1*,2 or 7	B,C,1,7	1	1,2,3,5,7,9	1,2,5

* Is assigned if any other TOS is given



MANDEX, INC.

Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

September 6, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (August)
Contract No. 500-85-0024
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for August 1985.

Visit to South Carolina Blue Shield

The decision to visit the Medicare Intermediary and Carrier for South Carolina was made at the time we requested the additional data needed both for this contract and for the contract we anticipate receiving from the Office of the Assistant Secretary for Planning and Evaluation, DHHS. For these projects, we will be using five years of South Carolina Part A and Part B data.

We have been using 1981 South Carolina Part A inpatient and outpatient data and Part B, physician data. We had worked with the Part B staff of South Carolina Blue Shield in the development of the data elements for the Physician Oriented Data Base project. We received those Part B data for South Carolina for 1983 and they are being used by us and by HCFA staff. We have requested Part A patient history tapes for 1982 and 1983; and Part B data in the physician oriented data base format for 1982, 1984 and, in due time, 1985.

We have had problems with the diagnosis and procedure codes in the Part A for 1981. We wanted to discuss these problems and our solutions to them. South Carolina changed its Part B SSN-EIN numbering system at the end of 1983 and, at our request, used it in supplying the 1983 tapes. We wanted to be sure we understood the new system as it is both unique and complex. But, of most importance, we wanted to meet the staff that was responsible for all of these data and have the opportunity to gain some insights obtainable in no other way. Three Mandex staff participated in these discussions -- Leo Marcus, Peter McMenamin, and Howard West.

The visit accomplished most of its intended results. An unexpected piece of information was that South Carolina is integrating its Part A and Part B operations. A few hard and important new insights were obtained. First, South

Carolina Part B data that we obtained for 1981 and 1983 were, as we had decided, claims paid during each calendar year. Our approach had been to use only the date of service. This lost almost half of December services and about 15% of November services. No data sets based on year in which the service was provided are available. However, when a continuum of years of data exist, eg., 1981, 1982 1983, 1984, 1985 all dates of service will be present. Thus the missing November and December 1981 claims will be included in the data set for 1982, and those for November and December 1982 in the data set for 1983, etc. We can, therefore, construct a complete data set by date of service for each year -- 1981, 1982, 1983, 1984.

Second, we learned that prevailing charge screens are constructed for the entire state on the basis of each of the thirty-three physician specialty groups.

Third, we determined that, as we suspected, new types of service codes are now in use, and obtained copies of the coding scheme. The 1983 Part B data uses one type of service code in connection with selected segments of the HCPCS procedure code and a different one for other segments of that code.

Finally, we now have an understanding of the way the SSN/EIN numbers are used by South Carolina. In the 1983 data set obtained for the physician oriented data base, there are two fields used for Physician SSN/EIN, field 2 which is a 12-position field and field 3 which is a 9-position field. Field 4 is a 1-position field indicating whether the information in field 2 is an SSN, an EIN, or neither. Field 2 contains the SSN or EIN of the medical entity in the first nine positions and the last three positions give the office location of that medical entity. Field 3 contains the SSN of the individual physician providing the service. Field 29 gives the office location of the individual physician providing the service and identified in field 3.

We anticipate receiving all of the South Carolina data we have requested (except 1985 Part B) on or about October 1, 1985.

Progress in Assaying Carrier Data

We have developed programs to assay data from each of the four carriers according to each of the following sequences: frequency, total allowed charges, and allowed charge per service. Thus we now have tables of the most frequent, most expensive, and highest priced procedures in each area. In the course of developing these tables, we also ran a version which normalized the display by an estimate of the number of beneficiaries in each jurisdiction. Hence we would be able to roughly assess differences in utilization or expenditures per beneficiary across the four areas.

In order to examine the distribution of allowed charges, we are refining the graph program to look at variations within specialties. This will be conducted with the South Carolina data.

We have identified a set of procedures from each carrier that represents those services, ranked by total allowed charges, which represent no less than 50% of allowed charges for all procedures. Following this, we established the union



of all of those sets of procedures. There are 63 procedures in all: 3 alpha HCPCS codes, 31 medical, 17 surgical, 6 radiology, and 6 pathology. As a percentage of allowed charges for all procedures, the set of 63 represents 57.8% in South Carolina, 57.6% in the Dakotas, 54.9% in Washington, and 61% in Minnesota (Blue Shield only). The Minnesota data do not include any anesthesia charges, which may explain the relatively high percentage in that jurisdiction.

The number of items in the Mandex list is smaller than the number generated from Barbara Wynn's analysis of the BMAD data. We believe there may be some noise in each of the two data sets to explain some of the difference. Also likely may be a difference in definitions. If Barbara's list is based on the percent of total reimbursements, and if visits are the more likely services to have been applied to beneficiaries' deductibles, then more than 63 procedures might well be needed to cover 50% of total reimbursements.

A table displaying these data is attached. Once a procedure had been identified as part of the initial sets, all types of service were included. This exercise has demonstrated the problem presented by the use of differing types of service codes by the various carriers. We are developing a program to translate TOS codes uniquely for our subsequent analyses.

We have also summarized total allowed charges for the basic office and hospital visits as follows:

TABLE 1. PERCENTAGE OF TOTAL ALLOWED CHARGES

	S.C.	Dakotas	Washington	Minnesota
Initial Office Visits	1.1	0.6	1.2	0.2
Follow-up Office Visits	11.0	9.2	12.2	11.8
Initial Hospital Visits	4.0	4.6	2.4	4.5
Follow-up Hospital Visits	11.9	8.7	8.2	10.1

Even though there are differences between the carriers in terms of the ranking of procedures within the four visit groups (discussed below), there is a great deal of consistency between the carriers in aggregate charges for the visit groups.

The following is a list of HCPCS codes selected on the basis of total allowed charges by assigning a rank to each code in each jurisdiction, summing across the jurisdictions, and listed from lowest onward. (A code which was first in each jurisdiction would have a total rank of 4.)

TABLE 2. AGGREGATE RANKINGS BY PROCEDURE

<u>Code</u>	<u>Sum of Ranks</u>	<u>Procedure</u>
66980	7	Cataract excision with IOL
90050	9	Limited follow-up office visit
90250	14	Limited follow-up hospital visit
90060	24	Intermediate follow-up office visit
52601	24	TURP
90220	26	Comprehensive initial hospital visit
93000	35	EKG
90040	38	Brief follow-up office visit
71020	40	Chest X-ray, 2 views
27130	51	Total hip replacement
90620	60	Comprehensive consultation
90240	65	Brief follow-up hospital visit
71010	72	Chest X-ray, 1 view
90080	73	Comprehensive follow-up office visit
27244	76	Fractured femur
90215	83	Intermediate initial hospital visit
27447	89	Total knee replacement

Some coding peculiarities affect the selection of procedures into this list. For example, Minnesota Blue Shield data include no coronary artery bypass surgery -- only assists. This list has a high correspondence with the CBO list derived from the Prevailing Charge Directory. With a few exceptions, the relative rankings of procedure across the jurisdictions are also consistent.

There are some differences between the carriers in the distributions of services with respect to the office visit categories. These are displayed in Table 3.

TABLE 3. OFFICE VISIT DISTRIBUTIONS

		<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
<u>Initial</u>					
Brief	90000	6.8%	22.0	15.8	20.2
Limited	90010	21.7	23.7	36.6	21.4
Intermediate	90015	26.6	22.1	28.6	20.7
Extended	90017	7.1	5.3	5.5	2.4
Comprehensive	90020	37.7	26.9	13.4	35.3
Total		100.0	100.0	100.0	100.0
<u>Subsequent</u>					
Minimal	90030	1.3%	4.8	2.4	4.2
Brief	90040	7.2	47.8	15.7	14.7
Limited	90050	80.8	28.3	46.5	63.1
Intermediate	90060	8.8	13.7	28.2	14.8
Extended	90070	0.6	2.9	4.3	0.8
Comprehensive	90080	2.4	2.5	2.9	2.5
Total		100.0	100.0	100.0	100.0

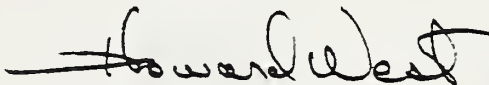
September 6, 1985

Although the percentage of total allowed charges for office visits is comparable across the carriers, the disaggregated distributions clearly are not. The initial visit distributions show nothing consistent except no one chooses the number '7' as ending digit; ending digit 0 or 5 is preferred.

If one suspects taxonomic inflation occurs over time, one might argue the Dakotas haven't begun; Minnesota is switching to "Limited" as the main visit; South Carolina has totally switched to "limited"; and Washington is moving on to "intermediate."

In the next month, we will be refining current programs and developing one to display the distributions of allowed charges across the payment indicators -- billed, customary, prevailing, other. We will also initiate sorting the data by provider number.

Sincerely,

A handwritten signature in black ink, appearing to read "Howard West", with a stylized flourish at the end.

Howard West
Project Director

HW:fki
cc: Marian Webb

PROCEDURES RESPONSIBLE FOR AT LEAST 50% OF
TOTAL ALLOWED CHARGES IN EACH OF FOUR CARRIERS

<u>HCPCS</u>	<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
M0040	1891 - C 76784 - 1	15403 - 1	945138 - 1 15 - 5	-
M0916	521440 - 1	-	-	91924 - 1
M0940	967560 - 1	156211 - 1	-	79777 - F 47417 - 1
90010	716 - C 136931 - 1	106900 - 1	1071274 - 1 25 - 5	18908 - 1
90015	929 - C 278798 - 1	118324 - 1	1034988 - 1 25 - 2	13224 - 1
90020	903 - C 662274 - 1	196673 - 1	902043 - 1 55 - 3	53 - X 45828 - 1
90040	2238 - C 664282 - 1	2683702 - 1	12 - 0 3663902 - 1 36 - 2	612552 - 1
90050	39008 - C 8399502 - 1	2192375 - 1	13816397 - 1 91 - 5 28 - 9	2641356 - 1
90060	4983 - C 1294152 - 1	1112294 - 1	9894514 - 1 5 - 2 25 - 3 18 - 8 22 - 9	927 - X 797074 - 1
90070	319 - C 88113 - 1	400661 - 1 37 - 2	2155451 - 1 68 - 5 36 - 9	43511 - 1
90080	3087 - C 817134 - 1	485203 - 1	2242005 - 1 47 - 9	252277 - 1
90200	775 - B 2629 - C 94232 - 1	810130 - 1	506456 - 1	269361 - 1
90215	5268 - C 310713 - 1	989449 - 1	2186028 - 1 68 - 3	703560 - 1
90220	3296 - B 125567 - C 3569031 - 1	1653625 - 1	3473389 - 1	827117 - 1

<u>HCPCS</u>	<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
90240	11765 - B 40589 - C 405369 - 1	4005872 - 1	2202734 - 1 188 - 3	600111 - 1
90250	657814 - B 559618 - C 10438193 - 1	1687129 - 1	9003427 - 1 610 - 3	2625053 - 1
90260	7081 - B 20791 - C 112607 - 1	503472 - 1	8348365 - 1 574 - 3	465515 - 1
90270	141 - B 1689 - C 8757 - 1	329718 - 1	1760757 - 1 52 - 5	22500 - 1
90450	3533 - C 144274 - 1	32043 - 1	232683 - 1	308343 - 1
90515	137 - C 15426 - F 6197 - 1	132073 - 1	38 - 0 967212 - 1 35 - 2 88 - 5	6343 - 1
90610	957 - C 49 - W 209047 - 3	405371 - 3	36 - 1 1377900 - 3	134287 - 3
90620	9250 - C 1442994 - 3	35 - 1 570839 - 3	387 - 1 3475728 - 3	261878 - 3
90630	2448 - C 427579 - 3	452100 - 3	413625 - 3	84088 - 3
92004	211006 - 1	171111 - 1	949020 - 1	464529 - 1
92014	465907 - 1	203543 - 1	944866 - 1 32 - 9	99586 - 1
93000	16 - C 55 - F 1205648 - 1	842447 - 1 4921 - 5	81 - 1 27 - 2 3759671 - 5	304 - B 780112 - 5
93010	54974 - F 23631 - 1	647464 - 1 1365 - 5	29 - 1 1803606 - 5	84 - B 673148 - 5
93015	1833 - F 158341 - 1	267041 - 1	2 - 1 1044070 - 5	125 - X 35 - 1 91708 - 5
93503	4328 - F 248833 - 1 263 - 7	423160 - 1	345176 - 2 590 - 5 3022 - 7	31836 - 2

<u>HCPCS</u>	<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
93547	3881 - F 538848 - 1 341 - 7	277434 - 1	1097790 - 2 452 - 5	--
93549	3050 - F 409481 - 1	248009 - 1	623752 - 2	--
99070	5 - 1	9018 - 1	66 - 1 944 - 2 1227730 - 9	29146 - 9
99173	52686 - B 380 - C 578836 - 1	15955 - 1	158793 - 1	4156 - 1
99174	73306 - B 377 - C 515861 - 1	5754 - 1	347795 - 1	38 - 1
11641	431486 - 2 1447 - 7	60903 - 2	203788 - 2 5945 - 7 54 - 8	14753 - 2
27130	693005 - 2 53278 - 7 55567 - 8	1007629 - 2 122907 - 7 60489 - 8	2501715 - 2 484835 - 7 435703 - 8	446881 - 2 46416 - 8
27236	407986 - 2 60018 - 7 7533 - 8	357238 - 2 37169 - 7 17876 - 8	1529981 - 2 335262 - 7 170541 - 8	208402 - 2 35262 - 8
27244	684784 - 2 37490 - 7 7554 - 8	499187 - 2 43753 - 7 24605 - 8	1723201 - 2 223576 - 7 153974 - 8	337150 - 2 28570 - 8
27447	374032 - 2 10658 - 7 28796 - 8	1042563 - 2 70534 - 7 52903 - 8	1577297 - 2 142710 - 7 264156 - 8	150 - X 422104 - 2 36629 - 8
33511	304530 - 2 35235 - 7 52379 - 8	109837 - 2 16802 - 7 17142 - 8	974216 - 2 123296 - 7 141375 - 8	3849 - 8
33512	717232 - 2 83969 - 7 130578 - 8	316764 - 2 43598 - 7 56871 - 8	2171352 - 2 257156 - 7 302423 - 8	15087 - 8
33513	490935 - 2 57175 - 7 95307 - 8	466058 - 2 65597 - 7 81643 - 8	1541844 - 2 211128 - 7 272830 - 8	1480 - 8
33514	130579 - 2 17183 - 7 25765 - 8	382598 - 2 49940 - 7 67907 - 8	524103 - 2 138703 - 7 87991 - 8	--

<u>HPCPS</u>	<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
35301	351938 - 2 59193 - 7 40389 - 8	434836 - 2 42148 - 7 39841 - 8	2073623 - 2 390930 - 7 323878 - 8	22430 - 2 7482 - 8
43235	605784 - 2 3337 - 7 24 - 8	371187 - 2 2633 - 7 42 - 8	949209 - 2 276 - 4 4457 - 7 335 - 8	138 - X 106440 - 2
43239	434402 - 2 272 - 7	278065 - 2 184 - 7	677672 - 2 566 - 7 53 - 8	63382 - 2
44140	529831 - 2 72554 - 7 43364 - 8	277801 - 2 43184 - 7 34216 - 8	1159649 - 2 307182 - 7 181055 - 8	175987 - 2 45921 - 8
47605	556282 - 2 76812 - 7 30732 - 8	215078 - 2 17878 - 7 25832 - 8	909771 - 2 170426 - 7 138140 - 8	167468 - 2 41869 - 8
52601	1919765 - 2 202386 - 7 924 - 8	1805750 - 2 168961 - 7 104 - 8	4291070 - 2 623465 - 7 3130 - 8	3249 - X 708742 - 2 899 - 8
66920	475745 - 2 93865 - 7 532 - 8	169184 - 2 11042 - 7	600871 - 2 196724 - 7 44578 - 8	283497 - 2 5247 - 8
66980	6175725 - 2 322444 - 7 5240 - 8	5815448 - 2 255072 - 7 240 - 8	12076011 - 2 1411 - 5 1004237 - 7 926790 - 8	1765 - F 3823169 - 2 49880 - 8
70470	376759 - F 40184 - 4	314199 - 4	1425896 - 4 56 - 5	15701 - B
71010	764487 - F 297555 - 4	743523 - 4	1374710 - 4	167120 - B 1385 - Q 414656 - 4 8 - 9
71020	1021537 - F 227922 - 4	68 - 2 12 - 3 1482099 - 4	40 - 2 5091672 - 4 29 - 5	97713 - B 1744 - Q 356288 - 4
74240	387422 - F 94405 - 4	382995 - 4	880341 - 4	91493 - B 43 - Q 96390 - 4

<u>HCPCS</u>	<u>S. C.</u>	<u>Dakotas</u>	<u>Washington</u>	<u>Minnesota</u>
77405	419544 - F 6344 - 6	219128 - 6	29 - 3 132 - 4 1444194 - 6	58262 - 6
77410	116102 - F 78981 - 6	591571 - 6	26 - 1 1770005 - 6	5863 - 6
80019	21 - F 117714 - 8	387575 - 5	912905 - 5	78786 - 5
80099	--	1374 - 5	1145523 - 5	11682 - 5
81000	781 - F 596299 - 8	552819 - 5	7 - 4 1367631 - 5	317537 - 5
82947	6788 - F 453823 - 8	360116 - 5	680385 - 5	180006 - 5
85022	9272 - F 180929 - 8	397091 - 5	909798 - 5	68055 - 5
85031	2 - F 54521 - 8	242499 - 5	17 - 1 890951 - 5	334000 - 5
Sum	59398180	42913169	143433125	22528821
Total	102713149	74511937	261354688	36942429
%	57.8	57.6	54.9	61.0



Surveys and Analysis Group

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August 6, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (July)
Contract No. 500-85-0024
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for July 1985.

During July, we developed and tested a computer program (GRAF) to display variations in allowed and billed charges for individual procedures. This program will also generate information to be used in subsequent fee schedule simulations. In other words, the two distributions described under I., Procedure based analyses, in my letter of July 15 will be generated by this program.

Programming is underway to provide the information described in the third element in Section I of the July 15 letter.

Sincerely,

Howard West
Project Director

cc: Marian Webb



Surveys and Analysis Group

8302D Old Court House Road • Vienna, VA 22180 • 703/442-3870

July 10, 1985

Mr. Benson Dutton, Jr.
Health Care Financing Administration
2-B-14 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

Subject: Monthly Administrative Progress Report (June)
Contract No. 500-85-0024
Development of MD-DRG Algorithms

Dear Mr. Dutton:

Pursuant to Section F of the subject contract, Mandex, Inc., is pleased to submit its monthly report for June 1985.

The scope of work to be undertaken was reviewed with the Project Officer and concerned HCFA staff at a meeting in Baltimore on June 6. A detailed summary of the understandings reached at that meeting has been prepared and will be sent for review within the next few days. Some of the work has been accomplished and, as described below, some is well underway.

Letters specifying the data needed and requesting cost estimates were sent in mid-June to the Medicare carriers for Minnesota, North and South Dakota, South Carolina, and Washington. We anticipate replies during July.

We have completed development of the mathematics required for analyses of the Hospital/DRG effects on physician-allowed charges. The computer programming is in process. We plan to use 1981 South Carolina data for these analyses and tapes are being prepared for these analyses.

Development has begun of the computer programs that will allow examination of physician fee distributions for relatively high frequency physician procedures. One objective of this effort is to determine how close allowed charges for these procedures have come to becoming a fee schedule.

We have furnished Barbary Wynn with the anesthesia data she had requested, i.e., a distribution of the number of services, the number of units, the dollars per service, and the dollars per unit. These data combined the 1983 100% carrier data for the Dakotas, South Carolina, and Washington (there were no anesthesia data in the Minnesota file). A rough comparison of these data with the BMAD Procedure file was made and substantial differences found. Mandex is using South Carolina data to investigate the causes for these differences.

Sincerely,

Howard West
Project Director

cc: Marian Webb

APPENDIX

READING THE APPENDIX TABLES FROM THE SIMULATIONS

Each of the following tables in the Appendix follows the same format in presenting the results of the simulations. The first few lines from Table A.1 are reproduced below to illustrate how to interpret this format. The numerical sections consist of sets of double matched rows each with a "pair identifier" and 14 entries. The pair identifier either relates the results to a particular option, as in Tables A.1 and A.2, or to a physician specialty. In the illustration below the pair identifier for the first set of rows is '1' for option 1. The next set is labelled '2' for option 2. In Tables A.3 through A.8, the first row identifier is always '01' for the specialty of general practice. A complete list of the specialty identifiers used in South Carolina in 1983 is presented at the end of this section.

Table A.1 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED

SSN/EIN IDENTIFIER ONLY

PCU/PCR		GAINS						0	LOSSES					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
ALL SERVS														
1	7.3	2.6	1.7	2.4	3.3	8.6	23.2	2.0	41.9	11.5	2.0	0.6	0.1	0.3
	-0.0	0.7	0.9	0.9	3.1	7.4	24.6	0.0	51.0	10.4	0.6	0.2	0.0	0.0
2	7.3	0.5	0.3	1.1	1.1	3.8	15.7	2.7	55.3	16.0	2.3	0.7	0.1	0.4
	-2.1	0.0	0.1	0.3	0.7	2.6	17.2	0.0	61.5	16.4	0.8	0.3	0.0	0.0

The first set of numerical entries relates to the aggregate percent change in beneficiary unassigned liability (PCU) and the aggregate percent change in allowed charges (PCR) resulting under the relevant option. In the illustration below, for all types of service, there would be a 7.3 percent increase in beneficiary unassigned liability under option 1, (retain specialty distinctions, allowed charge equals fee schedule). There would be no change in total allowed charges. (Given that the fee schedule amount would be the average allowed charge, this result is to be expected.) Under option 2, beneficiary liability increases by the same amount as under option 1, 7.3 percent. Total allowed charges, however, decline by 2.1 percent.

The remaining entries in each row relate to the percentage of "units" that would experience gains or losses in each of thirteen different size categories. In the first row in any set, the units are physician practices; in the second row the units are the allowed charges

Table A.1 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED
SSN/EIN IDENTIFIER ONLY

PCU/PCR		-----GAINS-----						0	-----LOSSES-----					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
ALL SERVS														
1	7.3	2.6	1.7	2.4	3.3	8.6	23.2	2.0	41.9	11.5	2.0	0.6	0.1	0.3
	-0.0	0.7	0.9	0.9	3.1	7.4	24.6	0.0	51.0	10.4	0.6	0.2	0.0	0.0
2	7.3	0.5	0.3	1.1	1.1	3.8	15.7	2.7	55.3	16.0	2.3	0.7	0.1	0.4
	-2.1	0.0	0.1	0.3	0.7	2.6	17.2	0.0	61.5	16.4	0.8	0.3	0.0	0.0

that were allocated to those practices during 1983 under the existing CPR system. Thus, for all types of service under option 1, 2.6 percent of the practices would have experienced a reduction in allowed charges of more than 25 percent. Those practices, however, represented only 0.7 percent of total allowed charges during that time period.

The maximum categories involve changes of more than 25 percent compared to the existing allowed charges experienced in 1983. The middle category involves those "units" which would have experienced absolutely no change in allowed charges. For the most part, this is a very small category. In the illustration, under option 1, only 2.0 percent of all practices would not experience a change in total allowed charges. Those practices were so small, however, that the total allowed charges they received were less than 0.05 percent of aggregate allowed charges during that time period. For the purpose of exposition, this amount is recorded as 0.0 percent. (Any non-zero change in allowed

Table A.1 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED

		SSN/EIN IDENTIFIER ONLY												
		GAINS							LOSSES					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
ALL SERVS														
1	7.3	2.6	1.7	2.4	3.3	8.6	23.2	2.0	41.9	11.5	2.0	0.6	0.1	0.3
	-0.0	0.7	0.9	0.9	3.1	7.4	24.6	0.0	51.0	10.4	0.6	0.2	0.0	0.0
2	7.3	0.5	0.3	1.1	1.1	3.8	15.7	2.7	55.3	16.0	2.3	0.7	0.1	0.4
	-2.1	0.0	0.1	0.3	0.7	2.6	17.2	0.0	61.5	16.4	0.8	0.3	0.0	0.0

charges is recorded. Thus the smallest change categories are labelled "5/E," where "E" stands for epsilon, a(ny) very small value greater than zero.)

Table A.1 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED

		SSN/EIN IDENTIFIER ONLY												
		-----GAINS-----							-----LOSSES-----					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
ALL SERVS														
1	7.3	2.6	1.7	2.4	3.3	8.6	23.2	2.0	41.9	11.5	2.0	0.6	0.1	0.3
	-0.0	0.7	0.9	0.9	3.1	7.4	24.6	0.0	51.0	10.4	0.6	0.2	0.0	0.0
2	7.3	0.5	0.3	1.1	1.1	3.8	15.7	2.7	55.3	16.0	2.3	0.7	0.1	0.4
	-2.1	0.0	0.1	0.3	0.7	2.6	17.2	0.0	61.5	16.4	0.8	0.3	0.0	0.0

Medicare Specialty Numbers Used in South Carolina 1983

Primary Care Specialties

01	GP
08	FP
70	CLINIC

Internal Medicine and Subspecialties

11	INTERNISTS
03	ALLERGY
06	CARDIOVASCULAR
07	DERMATOLOGY
10	GASTROENTEROLOG
13	NEUROLOGY
25	PHYSICAL MED
29	PULMONARY
39	NEPHROLOGY

Surgical Specialties

02	GS
04	OTOLARYNGOLOGY
14	NEUROSURGERY
16	OBGYN
18	OPHTHALMOLOGY
20	ORTHOPEDICS
24	PLASTIC SURG
33	THORACIC SURG
34	UROLOGY

Hospital Based Specialties and Psychiatry

05	ANESTHESIA
22	PATHOLOGY
30	RADIOLOGY
26	PSYCHIATRY

All Other Specialties

12	OSTEO
19	DENTISTS
37	PEDIATRICS
41	OPTOMETRY
42	LOCAL CODE FOR 24 PRACTICES
43	LOCAL CODE FOR 6 PRACTICES
44	LOCAL CODE FOR 34 PRACTICES
48	PODIATRY
58	OTHER 58
62	PSYCHOLOGIST
65	PHYS THERAPY
69	CLINICAL LAB

TABLE A.1 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED

SSN/EIN IDENTIFIER ONLY

PCU/PCR		GAINS						0	LOSSES					
		25	25/20	20/15	15/10	10/5	5/E*		E/5	5/10	10/15	15/20	20/25	25
ALL SERVS														
1 ^d	7.3	2.6	1.7	2.4	3.3	8.6	23.2	2.0	41.9	11.5	2.0	0.6	0.1	0.3
	-0.0	0.7	0.9	0.9	3.1	7.4	24.6	0.0	51.0	10.4	0.6	0.2	0.0	0.0
2	7.3	0.5	0.3	1.1	1.1	3.8	15.7	2.7	55.3	16.0	2.3	0.7	0.1	0.4
	-2.1	0.0	0.1	0.3	0.7	2.6	17.2	0.0	61.5	16.4	0.8	0.3	0.0	0.0
3	10.1	6.2	3.1	8.0	13.9	10.8	13.7	0.3	18.3	13.2	7.8	3.5	0.6	0.7
	-0.0	1.6	0.9	3.0	8.8	9.0	16.8	0.0	31.6	18.2	8.1	1.7	0.1	0.1
4	10.1	1.1	0.7	1.9	9.1	15.8	13.9	1.0	25.4	14.9	10.4	4.2	0.7	0.7
	-2.8	0.1	0.1	0.4	3.3	9.2	16.1	0.0	35.2	22.3	10.9	2.2	0.2	0.1
5	17.4	2.4	1.4	2.2	2.1	6.2	17.6	1.5	33.6	21.7	9.7	1.2	0.3	0.3
	-4.0	0.6	0.6	0.7	1.3	3.6	14.9	0.0	32.4	27.8	16.7	1.1	0.1	0.0
6	20.0	5.7	2.9	7.5	12.2	8.3	9.6	0.1	14.2	17.6	15.3	5.0	0.9	0.8
	-4.0	1.5	0.8	2.5	6.6	4.5	9.8	0.0	18.0	25.5	26.9	2.9	0.9	0.1
MED CARE														
1	7.3	4.3	1.9	2.8	3.1	7.7	20.1	1.2	39.9	14.4	3.1	1.0	0.3	0.1
	-0.0	1.4	1.5	1.5	2.7	6.2	22.5	0.0	47.4	14.7	1.2	0.6	0.1	0.0
2	7.3	1.0	0.5	1.4	1.4	3.9	15.3	2.3	50.7	18.3	3.4	1.2	0.4	0.2
	-2.1	0.1	0.3	0.9	1.2	3.0	13.2	0.0	60.0	18.8	1.6	0.6	0.2	0.0
3	11.8	9.3	4.7	11.0	17.5	6.8	8.5	0.1	11.1	11.1	10.7	6.0	2.1	1.2
	-0.0	3.7	1.9	6.5	17.1	4.9	6.0	0.0	11.2	19.7	22.4	5.8	0.5	0.3
4	11.8	1.7	1.6	5.1	18.0	10.7	10.6	1.0	16.1	11.9	12.7	6.9	2.5	1.3
	-3.2	0.3	0.5	1.8	13.7	12.1	6.2	0.0	11.7	18.4	27.7	6.4	0.8	0.3
5	8.6	4.2	1.9	2.8	3.0	7.2	19.9	1.1	39.3	15.5	3.4	1.1	0.4	0.1
	-0.7	1.4	1.5	1.5	2.6	5.2	20.7	0.0	43.8	20.4	2.1	0.6	0.1	0.0
6	13.1	9.1	4.7	11.0	17.3	6.6	8.6	0.1	10.8	10.4	11.5	6.4	2.1	1.2
	-0.7	3.6	1.9	6.5	16.8	4.8	5.7	0.0	8.5	14.8	29.8	6.7	0.5	0.3

* Epsilon, a very small value greater than zero.

^d The alternatives are as follows: 1--retain specialty distinctions, allowed charge equals fee schedule; 2--retain specialty distinctions, allowed charge equals lower of bill or fee schedule; 3--eliminate specialty distinctions, allowed charge equals fee schedule; 4--eliminate specialty distinctions, allowed charge equals lower of bill or fee schedule; 5--retain specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule; 6--eliminate specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule.

PCU/PCR		-----GAINS-----						0	-----LOSSES-----					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
SURGERY														
1	10.5	9.1	2.1	3.0	4.5	7.8	15.9	5.2	29.8	12.4	6.6	2.1	0.8	0.6
	-0.0	0.7	0.6	0.9	3.4	8.7	21.4	0.4	50.2	12.5	1.1	0.2	0.0	0.0
2	10.5	0.7	0.4	0.5	1.4	2.4	11.8	11.8	39.3	18.5	8.9	2.8	0.8	0.6
	-2.1	0.1	0.2	0.1	1.2	2.1	18.0	0.6	58.4	17.5	1.5	0.3	0.0	0.0
3	11.3	20.4	3.4	5.2	6.5	9.7	13.0	1.8	22.6	11.2	3.0	1.5	0.9	0.8
	-0.0	1.2	0.6	1.5	4.5	7.8	22.4	0.1	44.4	13.2	1.8	1.6	0.6	0.2
4	11.3	2.4	1.1	2.1	3.9	7.3	15.4	10.0	33.6	15.8	4.5	1.9	1.0	1.0
	-2.7	0.2	0.1	0.3	1.4	2.3	20.7	0.3	49.1	20.4	2.7	1.7	0.7	0.2
5	46.7	8.6	1.7	2.1	2.6	4.1	7.0	3.4	14.2	22.0	27.2	4.9	1.4	0.8
	-9.0	0.4	0.2	0.3	0.3	1.1	3.7	0.0	10.5	28.3	47.2	7.2	0.7	0.0
6	47.1	18.8	2.6	4.4	4.3	6.6	6.5	1.1	9.6	17.5	20.5	5.3	1.7	1.1
	-9.0	1.0	0.2	0.3	0.5	2.1	4.3	0.0	8.8	25.7	44.1	10.2	2.5	0.3
CONSULTS														
1	8.8	12.7	2.6	2.7	4.9	4.5	7.3	3.6	28.4	13.0	12.3	4.7	2.5	0.8
	-0.0	4.4	1.4	2.1	3.7	4.2	11.2	0.9	50.9	8.9	8.9	2.7	0.7	0.2
2	8.8	1.9	1.0	1.5	2.7	2.4	5.0	17.6	32.3	13.9	13.5	4.5	2.6	1.0
	-2.7	0.7	0.9	1.3	2.1	2.2	7.3	4.6	57.3	10.4	9.7	2.6	0.7	0.2
3	18.1	25.0	3.2	4.6	3.2	7.6	8.9	0.3	8.9	25.7	10.3	1.0	1.0	0.2
	-0.0	8.5	1.7	3.3	1.5	6.0	10.5	0.0	4.8	48.0	14.2	0.8	0.5	0.0
4	18.1	4.8	3.2	2.7	3.0	7.7	10.1	17.3	10.4	27.3	11.1	1.2	1.0	0.2
	-4.4	1.8	1.6	1.9	1.4	4.5	13.0	4.3	5.8	47.9	16.3	0.9	0.5	0.0
5	8.8	12.7	2.6	2.7	4.9	4.5	7.3	3.6	28.4	13.0	12.3	4.7	2.5	0.8
	-0.0	4.4	1.4	2.1	3.7	4.2	11.2	0.9	50.9	8.9	8.9	2.7	0.7	0.2
6	18.1	25.0	3.2	4.6	3.2	7.6	8.9	0.3	8.9	25.7	10.3	1.0	1.0	0.2
	-0.0	8.5	1.7	3.3	1.5	6.0	10.5	0.0	4.8	48.0	14.2	0.8	0.5	0.0
DIAGNOSTIC XRAY														
1	9.6	6.7	1.3	1.7	5.6	6.0	14.7	9.0	22.6	20.7	7.7	3.3	0.3	0.4
	-0.0	0.8	0.3	0.2	2.0	7.6	33.5	0.5	42.8	9.5	2.2	0.6	0.1	0.0
2	9.6	0.6	0.4	0.4	1.4	4.1	11.7	15.3	28.4	25.0	8.1	3.7	0.3	0.4
	-1.7	0.0	0.0	0.0	0.5	2.2	25.0	1.2	57.7	10.0	2.5	0.6	0.1	0.0
3	11.9	10.1	2.3	4.6	5.0	8.1	13.0	1.7	24.7	20.6	8.0	0.7	0.6	0.6
	-0.0	1.0	0.4	0.6	1.9	8.7	31.3	0.0	42.5	11.2	2.3	0.1	0.1	0.0
4	11.9	1.0	0.7	1.7	2.1	6.0	12.7	9.3	30.6	24.9	8.6	1.0	0.6	0.9
	-1.9	0.1	0.1	0.1	0.5	2.3	24.1	0.4	56.5	13.2	2.4	0.1	0.1	0.1
5	13.4	6.4	1.3	1.6	5.4	5.7	13.7	8.7	23.3	20.3	6.7	4.6	1.7	0.6
	-1.4	0.6	0.2	0.2	1.9	2.1	24.3	0.3	56.4	9.9	1.1	2.4	0.5	0.1
6	16.0	10.0	2.1	4.3	5.1	7.9	11.9	1.7	25.3	19.1	5.9	3.9	2.1	0.7
	-1.5	0.9	0.2	0.5	1.9	3.2	21.0	0.0	40.4	26.9	1.0	3.3	0.5	0.1

		-----GAINS-----							-----LOSSES-----					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
PATHOLOGY														
1	3.2	4.6	2.4	3.7	4.3	9.2	18.3	7.6	29.0	14.5	3.1	1.9	0.6	0.8
	-0.0	1.7	0.8	1.7	3.4	8.3	25.7	0.6	36.5	17.4	1.5	2.3	0.1	0.1
2	3.2	0.9	0.2	0.6	1.7	3.9	13.7	10.6	41.6	19.1	4.0	2.2	0.8	0.9
	-2.8	0.2	0.1	0.3	1.1	3.0	19.0	0.9	48.9	21.2	2.5	2.4	0.2	0.2
3	3.8	7.3	2.8	3.4	5.6	8.9	19.5	0.9	28.7	12.8	4.4	2.3	1.8	1.6
	-0.0	2.3	1.2	2.0	4.3	12.0	22.0	0.1	30.6	14.6	6.6	2.8	1.3	0.2
4	3.8	0.9	0.4	0.5	1.6	4.1	16.6	3.7	42.3	18.0	5.6	2.8	1.8	1.8
	-3.5	0.2	0.3	0.2	1.1	3.0	20.2	0.4	42.8	18.5	8.6	3.1	1.3	0.4
5	3.2	4.6	2.4	3.7	4.3	9.2	18.3	7.5	28.9	14.5	3.1	1.9	0.6	0.8
	-0.0	1.7	0.8	1.7	3.4	8.3	25.7	0.6	36.1	17.8	1.5	2.3	0.1	0.1
6	3.8	7.3	2.8	3.4	5.6	8.9	19.5	0.8	28.7	12.8	4.4	2.3	1.8	1.6
	-0.0	2.3	1.2	2.0	4.3	12.0	22.0	0.1	30.2	15.0	6.4	3.1	1.3	0.2
RADIATION THERAPY														
1	7.2	2.8	0.0	1.4	1.4	5.6	15.5	21.1	38.0	8.5	1.4	4.2	0.0	0.0
	-0.0	1.9	0.0	1.5	0.0	4.1	31.5	0.7	53.7	5.4	0.8	0.3	0.0	0.0
2	7.2	0.0	0.0	0.0	0.0	1.4	14.1	23.9	43.7	8.5	2.8	4.2	0.0	1.4
	-1.6	0.0	0.0	0.0	0.0	0.6	24.4	0.8	67.0	5.4	1.5	0.1	0.0	0.2
3	8.2	5.6	0.0	1.4	1.4	4.2	16.9	7.0	43.7	9.9	1.4	4.2	0.0	4.2
	-0.0	2.0	0.0	1.5	0.0	4.0	31.7	0.0	53.7	5.7	0.8	0.3	0.0	0.3
4	8.2	0.0	0.0	0.0	0.0	1.4	15.5	11.3	49.3	9.9	2.8	4.2	0.0	5.6
	-1.7	0.0	0.0	0.0	0.0	0.6	24.5	0.1	67.0	5.7	1.5	0.1	0.0	0.4
5	10.5	2.8	0.0	1.4	1.4	4.2	15.5	18.3	38.0	9.9	4.2	4.2	0.0	0.0
	-0.3	1.9	0.0	1.5	0.0	4.1	31.5	0.5	51.7	7.5	1.1	0.3	0.0	0.0
6	11.4	5.6	0.0	1.4	1.4	2.8	16.9	7.0	42.3	11.3	2.8	4.2	0.0	4.2
	-0.3	2.0	0.0	1.5	0.0	4.0	31.7	0.0	51.5	7.8	0.9	0.3	0.0	0.3
ANESTHESIA														
1	1.8	1.3	0.0	3.8	0.0	10.3	20.5	15.4	26.9	15.4	5.1	1.3	0.0	0.0
	-0.0	4.7	0.0	0.9	0.0	8.7	39.2	0.2	19.0	21.9	5.4	0.0	0.0	0.0
2	1.8	0.0	0.0	0.0	2.6	7.7	20.5	14.1	29.5	17.9	6.4	1.3	0.0	0.0
	-2.1	0.0	0.0	0.0	0.9	7.4	35.7	0.2	26.8	21.0	8.1	0.0	0.0	0.0
3	1.8	3.8	0.0	3.8	0.0	12.8	21.8	3.8	23.1	17.9	9.0	1.3	0.0	2.6
	-0.0	4.7	0.0	0.9	0.0	8.8	40.7	0.0	16.6	22.2	6.1	0.0	0.0	0.0
4	1.8	0.0	0.0	1.3	2.6	9.0	21.8	5.1	25.6	20.5	9.0	2.6	0.0	2.6
	-2.1	0.0	0.0	0.0	0.9	7.4	35.6	0.0	25.9	21.4	8.3	0.4	0.0	0.0
5	1.8	1.3	0.0	3.8	0.0	10.3	20.5	15.4	26.9	15.4	5.1	1.3	0.0	0.0
	-0.0	4.7	0.0	0.9	0.0	8.7	39.2	0.2	19.0	21.9	5.4	0.0	0.0	0.0
6	1.8	3.8	0.0	3.8	0.0	12.8	21.8	3.8	23.1	17.9	9.0	1.3	0.0	2.6
	-0.0	4.7	0.0	0.9	0.0	8.8	40.7	0.0	16.6	22.2	6.1	0.0	0.0	0.0

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
SURGICAL ASSISTS														
1	4.7	1.5	1.1	1.1	1.8	7.7	14.0	27.9	36.4	6.6	1.1	0.0	0.4	0.4
	-0.0	0.4	0.3	0.3	3.0	9.2	17.8	10.1	54.4	3.0	1.2	0.0	0.1	0.2
2	4.7	0.0	0.4	0.4	0.7	4.8	9.9	34.2	41.2	6.6	1.1	0.0	0.4	0.4
	-1.1	0.0	0.0	0.1	0.1	8.0	14.2	11.9	61.2	3.0	1.2	0.0	0.1	0.2
3	5.2	1.8	1.5	1.5	5.1	8.5	19.1	10.7	37.9	10.3	2.2	0.4	0.0	1.1
	-0.0	0.4	0.4	0.4	9.3	6.3	19.3	2.5	53.3	6.5	1.1	0.1	0.0	0.3
4	5.2	0.4	0.0	0.4	2.6	5.5	15.8	17.6	43.8	10.3	2.2	0.4	0.0	1.1
	-1.3	0.0	0.0	0.1	0.7	9.9	16.2	4.7	60.3	6.5	1.1	0.1	0.0	0.3
5	30.9	0.4	0.0	1.1	0.7	1.1	2.9	3.7	7.4	23.2	52.6	5.5	0.7	0.7
	-9.7	0.1	0.0	0.3	0.3	0.2	3.3	0.2	8.5	22.6	60.4	3.5	0.2	0.2
6	31.0	1.1	0.0	0.4	1.5	1.8	4.8	2.6	8.5	24.6	44.1	7.7	1.5	1.5
	-9.7	0.1	0.0	0.3	0.4	0.3	4.2	0.2	11.2	21.6	55.5	5.3	0.6	0.3
MISCELLANEOUS														
1	39.5	6.9	2.8	0.9	1.1	5.6	2.4	6.0	71.2	0.2	0.9	0.2	0.2	1.7
	-0.0	6.4	0.9	1.1	1.3	7.7	3.6	3.4	49.8	0.7	1.2	0.1	0.6	23.3
2	39.5	0.4	0.2	0.6	0.2	0.2	0.4	14.8	78.3	1.3	0.9	0.4	0.2	1.9
	-8.8	0.3	1.5	1.0	0.6	0.2	1.4	7.7	56.1	5.6	1.2	0.4	0.6	23.3
3	42.7	8.0	3.4	0.6	1.7	4.5	2.2	0.2	77.2	0.2	0.4	0.0	0.2	1.3
	-0.0	7.3	1.4	1.1	1.2	6.7	2.6	0.0	54.8	0.6	1.1	0.0	0.6	22.6
4	42.7	0.4	0.2	0.4	0.4	0.2	0.4	10.1	85.4	0.4	0.4	0.0	0.2	1.3
	-9.4	0.3	1.5	0.4	0.6	0.2	1.4	4.9	62.0	4.4	1.1	0.0	0.6	22.6
5	41.3	6.9	2.8	0.6	0.9	5.8	2.6	6.0	71.2	0.2	0.9	0.2	0.2	1.7
	-0.6	6.4	0.9	0.4	0.7	8.3	4.2	3.4	49.8	0.7	1.2	0.1	0.6	23.3
6	42.7	8.0	3.4	0.6	1.7	4.5	2.2	0.2	77.2	0.2	0.4	0.0	0.2	1.3
	-0.0	7.3	1.4	1.1	1.2	6.7	2.6	0.0	54.8	0.6	1.1	0.0	0.6	22.6

TABLE A.2 ESTIMATED SIMULATION IMPACTS BY ALTERNATIVE AND TYPE OF SERVICE FOR ALL SPECIALTIES COMBINED

BOTH PROVIDER NUMBER AND SSN/EIN IDENTIFIERS

PCU/PCR		GAINS						LOSSES							
		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25	
ALL SERVS															
1 ^e	7.3	2.7	1.8	2.5	3.4	8.6	23.9	2.8	39.1	10.0	2.0	0.9	0.6	1.7	
	-0.0	0.8	0.8	1.3	3.2	7.6	24.9	0.0	49.0	11.1	0.9	0.2	0.1	0.1	
2	7.3	0.5	0.4	1.2	1.4	4.4	18.3	4.5	50.0	13.4	2.4	1.1	0.6	1.8	
	-2.1	0.0	0.1	0.4	0.7	3.0	17.3	0.1	61.3	15.5	1.1	0.2	0.1	0.1	
3	10.1	5.6	2.6	6.3	10.5	11.0	17.9	0.3	21.8	10.8	6.8	3.2	0.9	2.2	
	-0.0	1.7	0.8	3.4	9.1	9.0	16.4	0.0	31.2	17.1	9.0	2.0	0.2	0.1	
4	10.1	1.1	0.6	2.0	7.0	12.6	18.1	1.8	28.4	12.7	8.6	3.8	1.1	2.4	
	-2.8	0.1	0.1	0.4	3.7	9.4	14.0	0.0	37.0	20.9	11.3	2.6	0.2	0.1	
5	17.4	2.5	1.7	2.3	2.4	6.8	19.6	2.5	32.0	18.0	8.1	1.6	0.7	1.8	
	-4.0	0.7	0.6	0.9	1.0	4.1	14.3	0.0	31.9	28.1	16.9	1.3	0.2	0.1	
6	20.0	5.3	2.5	5.8	9.3	9.3	14.9	0.2	17.6	14.3	12.8	4.5	1.1	2.3	
	-4.0	1.6	0.8	2.5	6.6	5.4	8.1	0.0	18.1	25.4	26.8	3.7	0.9	0.1	
MED CARE															
1	7.3	4.3	2.1	2.7	3.3	8.2	19.8	1.1	39.1	14.3	3.2	1.3	0.4	0.2	
	-0.0	1.4	1.8	1.3	2.4	6.9	22.2	0.0	47.6	13.9	1.4	0.7	0.1	0.2	
2	7.3	1.1	0.5	1.7	1.5	4.5	15.4	2.6	49.2	18.0	3.4	1.4	0.5	0.2	
	-2.1	0.1	0.3	1.1	0.8	3.5	13.4	0.1	60.3	17.7	1.6	0.7	0.2	0.2	
3	11.8	9.3	4.5	10.2	16.0	7.8	8.4	0.1	11.7	11.5	10.9	6.2	2.0	1.4	
	-0.0	3.7	2.0	6.6	17.1	5.1	5.3	0.0	11.8	19.0	22.3	6.1	0.7	0.3	
4	11.8	2.0	1.4	4.9	16.4	11.4	10.3	1.4	16.2	12.3	12.6	7.3	2.3	1.5	
	-3.2	0.3	0.4	2.0	14.0	12.1	5.7	0.0	12.1	18.2	26.8	7.0	1.0	0.4	
5	8.6	4.2	2.1	2.7	3.3	7.8	19.3	1.1	38.1	15.7	3.5	1.5	0.5	0.2	
	-0.7	1.4	1.9	1.3	2.2	5.9	20.6	0.0	43.0	20.8	1.9	0.7	0.1	0.2	
6	13.1	9.2	4.5	10.2	15.9	7.7	8.4	0.1	11.2	10.9	11.8	6.7	2.1	1.4	
	-0.7	3.7	2.1	6.6	16.9	5.0	5.1	0.0	8.8	15.5	27.8	7.7	0.7	0.3	

^e The alternatives are as follows: 1--retain specialty distinctions, allowed charge equals fee schedule; 2--retain specialty distinctions, allowed charge equals lower of bill or fee schedule; 3--eliminate specialty distinctions, allowed charge equals fee schedule; 4--eliminate specialty distinctions, allowed charge equals lower of bill or fee schedule; 5--retain specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule; 6--eliminate specialty distinctions, \$100+ fees reduced 10%, allowed charge equals fee schedule;

PCU/PCR		-----GAINS-----						0	-----LOSSES-----					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
SURGERY														
1	10.5	8.5	1.6	2.6	4.4	7.6	16.0	5.6	31.1	12.2	6.2	2.6	1.0	0.6
	-0.0	0.7	0.6	1.0	3.8	8.1	23.3	0.4	47.2	13.2	1.3	0.2	0.0	0.0
2	10.5	0.8	0.4	0.5	1.3	2.7	11.9	11.6	39.9	17.8	8.3	3.2	1.1	0.6
	-2.1	0.1	0.2	0.1	1.2	3.7	17.0	0.6	57.4	17.4	1.8	0.4	0.0	0.0
3	11.3	18.7	3.0	5.1	6.5	9.5	13.3	1.9	22.9	12.2	3.1	1.9	0.8	0.9
	-0.0	1.3	0.5	1.8	5.0	7.7	22.9	0.1	39.4	16.6	2.1	1.7	0.6	0.2
4	11.3	2.4	1.1	2.1	3.9	7.3	15.5	9.4	33.5	16.0	4.6	2.3	0.8	1.1
	-2.7	0.2	0.2	0.3	1.4	3.6	19.7	0.3	48.1	20.6	2.8	1.9	0.6	0.3
5	46.7	8.1	1.3	1.9	2.4	3.7	6.7	3.9	13.9	22.2	28.1	5.4	1.8	0.7
	-9.0	0.4	0.2	0.3	0.3	1.2	3.9	0.0	10.2	28.2	47.2	7.2	0.8	0.0
6	47.1	17.3	2.4	3.7	4.0	6.7	6.7	1.3	9.6	18.1	21.1	6.1	1.7	1.3
	-9.0	1.0	0.2	0.3	0.5	2.4	4.4	0.0	9.4	26.5	40.8	11.7	2.1	0.8
CONSULTS														
1	8.8	11.2	2.2	3.1	4.5	4.4	7.7	3.0	28.2	14.0	14.0	4.4	2.5	0.7
	-0.0	4.3	1.3	2.6	3.5	3.3	12.9	1.0	47.4	11.1	9.1	2.6	0.7	0.2
2	8.8	2.1	1.1	1.4	2.2	2.6	5.7	15.4	32.0	15.1	14.7	4.3	2.5	0.8
	-2.7	0.8	1.0	1.1	2.1	2.4	7.9	5.6	53.5	12.8	9.4	2.6	0.7	0.2
3	18.1	22.3	3.4	4.7	2.8	7.3	10.1	0.3	8.0	27.3	11.4	1.3	1.0	0.1
	-0.0	8.6	1.6	3.3	1.8	5.4	10.7	0.0	4.2	48.8	14.1	0.8	0.5	0.0
4	18.1	4.7	3.2	3.1	2.2	7.2	11.2	15.3	10.0	28.4	12.2	1.4	1.0	0.1
	-4.4	1.8	1.6	1.9	1.4	4.8	11.7	4.6	6.4	48.0	16.3	1.0	0.5	0.0
5	8.8	11.2	2.2	3.1	4.5	4.4	7.7	3.0	28.2	14.0	14.0	4.4	2.5	0.7
	-0.0	4.3	1.3	2.6	3.5	3.3	12.9	1.0	47.4	11.1	9.1	2.6	0.7	0.2
6	18.1	22.3	3.4	4.7	2.8	7.3	10.1	0.3	8.0	27.3	11.4	1.3	1.0	0.1
	-0.0	8.6	1.6	3.3	1.8	5.4	10.7	0.0	4.2	48.8	14.1	0.8	0.5	0.0
DIAGNOSTIC XRAY														
1	9.6	6.3	1.2	1.6	4.8	6.8	16.2	7.7	25.2	19.9	6.8	2.9	0.4	0.3
	-0.0	0.8	0.3	0.4	1.9	10.2	30.9	0.5	42.8	9.2	2.3	0.6	0.1	0.0
2	9.6	0.8	0.3	0.5	1.4	4.6	12.6	14.7	30.4	23.3	7.4	3.4	0.4	0.3
	-1.7	0.1	0.0	0.1	0.6	2.1	26.0	1.3	56.6	9.8	2.7	0.7	0.1	0.0
3	11.9	9.1	2.0	4.9	4.9	7.9	13.2	1.4	27.1	19.4	7.3	1.7	0.6	0.4
	-0.0	1.0	0.4	0.7	1.9	11.1	28.8	0.0	43.3	9.5	2.9	0.1	0.1	0.0
4	11.9	1.5	0.7	2.1	2.2	5.3	12.2	8.8	32.9	23.3	7.8	2.0	0.6	0.6
	-1.9	0.1	0.1	0.1	0.7	2.2	25.4	0.6	56.1	11.2	3.1	0.2	0.1	0.1
5	13.4	6.1	1.1	1.5	4.7	6.1	15.3	7.4	25.2	20.3	6.5	4.2	1.1	0.5
	-1.4	0.7	0.2	0.3	2.0	2.0	22.9	0.4	54.3	12.3	1.9	2.5	0.4	0.1
6	16.0	9.0	1.8	4.7	4.9	7.1	12.6	1.4	27.1	18.9	6.1	4.1	1.7	0.5
	-1.5	0.9	0.3	0.5	1.9	2.9	21.4	0.0	44.3	22.6	1.3	3.1	0.5	0.1

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
PATHOLOGY														
1	3.2	5.5	2.5	3.5	4.6	8.2	18.6	6.2	27.3	13.6	3.8	1.9	1.2	3.0
	-0.0	2.2	0.8	2.4	3.7	8.4	22.9	0.7	35.4	17.2	3.2	1.7	0.8	0.5
2	3.2	1.0	0.8	1.1	2.0	3.8	16.3	10.1	36.4	17.4	4.6	2.1	1.3	3.1
	-2.8	0.2	0.4	0.6	1.4	3.3	19.9	1.2	44.0	21.4	4.4	1.6	0.6	1.0
3	3.8	7.7	2.5	3.5	5.1	9.6	19.9	0.8	25.7	11.1	5.6	2.7	2.1	3.8
	-0.0	2.9	1.5	2.2	4.8	10.6	20.7	0.2	30.5	12.8	8.3	3.0	1.2	1.1
4	3.8	1.2	0.7	0.9	2.1	5.3	19.0	4.4	35.9	14.5	6.7	3.0	2.3	4.1
	-3.5	0.3	0.3	0.7	1.7	4.0	19.7	0.5	40.8	15.8	10.4	3.1	1.2	1.4
5	3.2	5.5	2.5	3.5	4.6	8.2	18.6	6.2	27.2	13.7	3.8	1.9	1.2	3.0
	-0.0	2.2	0.8	2.4	3.7	8.4	22.9	0.7	35.0	17.6	3.2	1.7	0.8	0.5
6	3.8	7.7	2.5	3.5	5.1	9.6	19.9	0.7	25.6	11.1	5.6	2.7	2.1	3.8
	-0.0	2.9	1.5	2.2	4.8	10.6	20.7	0.1	30.1	13.2	8.2	3.1	1.2	1.1
RADIATION THERAPY														
1	7.2	2.8	0.0	1.9	3.7	5.6	15.0	15.0	42.1	7.5	1.9	1.9	0.0	2.8
	-0.0	1.9	0.0	1.6	0.3	8.9	27.0	0.7	52.2	6.2	1.0	0.1	0.0	0.1
2	7.2	0.0	0.0	0.9	0.9	1.9	11.2	18.7	48.6	7.5	3.7	2.8	0.9	2.8
	-1.6	0.0	0.0	0.1	0.0	5.4	19.2	0.8	66.5	6.2	1.5	0.1	0.1	0.1
3	8.2	4.7	0.0	1.9	3.7	5.6	16.8	4.7	44.9	8.4	1.9	1.9	0.0	5.6
	-0.0	2.0	0.0	1.6	0.3	8.9	27.2	0.0	52.2	6.5	1.0	0.1	0.0	0.3
4	8.2	0.0	0.0	0.9	0.9	1.9	13.1	9.3	52.3	8.4	3.7	2.8	0.9	5.6
	-1.7	0.0	0.0	0.1	0.0	5.4	19.3	0.1	66.5	6.5	1.5	0.1	0.1	0.3
5	10.5	2.8	0.0	1.9	3.7	3.7	13.1	13.1	43.0	10.3	3.7	1.9	0.0	2.8
	-0.3	1.9	0.0	1.6	0.3	8.9	26.6	0.5	50.7	8.2	1.2	0.1	0.0	0.1
6	11.4	4.7	0.0	1.9	3.7	3.7	15.0	4.7	44.9	11.2	2.8	1.9	0.0	5.6
	-0.3	2.0	0.0	1.6	0.3	8.8	26.8	0.0	50.5	8.5	1.1	0.1	0.0	0.3
ANESTHESIA														
1	1.8	0.9	0.0	2.6	0.0	9.5	22.4	11.2	28.4	18.1	6.0	0.9	0.0	0.0
	-0.0	4.7	0.0	0.9	0.0	9.8	25.9	0.2	32.6	17.4	8.5	0.0	0.0	0.0
2	1.8	0.0	0.0	0.0	1.7	6.9	22.4	11.2	31.0	18.1	7.8	0.9	0.0	0.0
	-2.1	0.0	0.0	0.0	0.9	8.3	30.8	0.2	32.2	17.7	9.8	0.0	0.0	0.0
3	1.8	3.4	0.0	2.6	0.0	11.2	23.3	2.6	27.6	18.1	8.6	0.9	0.0	1.7
	-0.0	4.7	0.0	0.9	0.0	9.8	27.4	0.0	32.6	15.3	9.2	0.0	0.0	0.0
4	1.8	0.0	0.0	0.9	1.7	8.6	23.3	4.3	29.3	19.0	9.5	1.7	0.0	1.7
	-2.1	0.0	0.0	0.0	0.9	8.4	30.8	0.0	32.3	17.1	10.1	0.4	0.0	0.0
5	1.8	0.9	0.0	2.6	0.0	9.5	22.4	11.2	28.4	18.1	6.0	0.9	0.0	0.0
	-0.0	4.7	0.0	0.9	0.0	9.8	25.9	0.2	32.6	17.4	8.5	0.0	0.0	0.0
6	1.8	3.4	0.0	2.6	0.0	11.2	23.3	2.6	27.6	18.1	8.6	0.9	0.0	1.7
	-0.0	4.7	0.0	0.9	0.0	9.8	27.4	0.0	32.6	15.3	9.2	0.0	0.0	0.0

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
SURGICAL ASSISTS														
1	4.7	2.2	1.1	0.8	3.3	7.9	11.7	26.5	36.9	7.9	1.1	0.0	0.3	0.3
	-0.0	0.9	0.4	0.3	3.5	8.8	15.4	11.4	51.9	6.0	1.2	0.0	0.1	0.2
2	4.7	0.0	0.5	0.3	1.4	4.6	9.0	33.1	41.3	8.2	1.1	0.0	0.3	0.3
	-1.1	0.0	0.1	0.1	0.4	7.9	13.2	13.7	54.7	8.4	1.2	0.0	0.1	0.2
3	5.2	2.5	1.4	1.6	4.4	8.2	16.7	12.8	39.1	9.3	2.7	0.5	0.0	0.8
	-0.0	0.9	0.5	1.0	4.3	9.0	17.9	3.8	54.2	6.6	1.3	0.1	0.0	0.3
4	5.2	0.3	0.3	0.3	2.5	4.6	14.2	20.5	43.7	9.6	2.7	0.5	0.0	0.8
	-1.3	0.0	0.1	0.1	0.8	8.2	16.7	6.5	56.8	9.0	1.3	0.1	0.0	0.3
5	30.9	0.3	0.3	1.4	0.8	1.1	3.3	3.3	9.0	18.0	54.9	6.3	0.8	0.5
	-9.7	0.1	0.1	0.6	0.4	0.3	3.6	0.3	9.1	19.1	60.3	5.6	0.3	0.2
6	31.0	0.8	0.3	0.8	1.4	1.9	4.1	2.5	9.0	20.5	48.6	6.8	1.9	1.4
	-9.7	0.1	0.1	0.5	0.5	0.6	4.1	0.2	10.2	19.7	57.9	4.7	1.0	0.4
MISCELLANEOUS														
1	39.5	6.3	2.4	0.7	1.1	4.4	3.0	5.4	73.2	0.9	0.7	0.2	0.2	1.5
	-0.0	6.5	0.9	1.2	1.5	6.8	4.1	3.4	49.4	1.0	1.2	0.1	0.6	23.3
2	39.5	0.4	0.2	0.6	0.2	0.2	0.4	14.0	79.1	2.0	0.7	0.4	0.2	1.7
	-8.8	0.3	1.5	1.0	0.6	0.2	1.4	7.8	55.8	5.8	1.2	0.4	0.6	23.3
3	42.7	7.4	3.7	0.7	0.9	4.3	2.0	0.2	78.9	0.2	0.4	0.0	0.2	1.1
	-0.0	7.5	1.4	1.1	0.6	6.8	2.8	0.0	54.7	0.6	1.1	0.0	0.6	22.6
4	42.7	0.4	0.2	0.4	0.4	0.2	0.4	10.2	86.0	0.4	0.4	0.0	0.2	1.1
	-9.4	0.3	1.5	0.4	0.6	0.2	1.4	4.9	61.9	4.4	1.1	0.0	0.6	22.6
5	41.3	6.3	2.4	0.6	0.9	4.6	3.1	5.4	73.2	0.9	0.7	0.2	0.2	1.5
	-0.6	6.5	0.9	0.5	0.9	7.4	4.8	3.4	49.4	1.0	1.2	0.1	0.6	23.3
6	42.7	7.4	3.7	0.7	0.9	4.3	2.0	0.2	78.9	0.2	0.4	0.0	0.2	1.1
	-0.0	7.5	1.4	1.1	0.6	6.8	2.8	0.0	54.7	0.6	1.1	0.0	0.6	22.6

Table A.3 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 1 EIN + PROV#

RETAIN SPECIALTY DISTINCTIONS, ALLOWED CHARGE EQUALS FEE SCHEDULE

PCU/PCR		GAINS						0	LOSSES					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
Primary Care Specialties														
1	7.7	2.1	2.3	2.3	3.8	7.4	19.3	0.7	44.3	12.9	1.1	1.0	0.7	2.1
	0	2.2	1.5	2.0	3.9	5.0	13.3		57.7	13.4	0.4	0.4		0.1
8	4.2	1.8	1.2	1.3	2.0	6.5	38.1	0.3	38.8	3.5	1.2	1.0	1.0	3.3
	0	0.5	0.5	0.5	0.5	3.1	44.3		46.5	1.6	1.0		1.2	0.3
0	1.5	2.2		3.0	5.9	21.5	24.4	1.5	26.7	5.2	3.7	3.0	1.5	1.5
	0				2.5	13.7	32.9		42.3	0.5	5.7	2.0		0.3
Internal Medicine and Subspecialties														
1	8.8	3.4	2.6	3.5	3.0	7.9	23.0		37.3	11.7	1.7	1.1	1.2	3.5
	0	0.8	2.4	2.7	2.6	7.9	19.1		46.4	17.8	0.1		0.1	0.1
3	4.3	5.0				5.0	30.0	5.0	25.0	25.0	5.0			
	0	3.5				1.1	59.8		0.1	12.7	22.8	0.1		
6	7.1	1.1		2.2	2.2	14.0	22.6	1.1	46.2	8.6	1.1	1.1		
	0			1.5	1.3	9.9	33.2		48.3	5.6				
7	8.4	7.1	4.7	2.4	2.4	4.7	20.0	2.4	30.6	21.2	2.4	1.2		1.2
	0	2.1	6.4	2.6	1.4	2.9	14.9		28.2	41.3	0.2			
0	9.2	3.3		3.3	10.0	6.7	6.7	6.7	63.3					
	0			3.6	10.1	2.0	1.9		82.5					
3	8.9	2.1		2.1	4.2	6.3	16.7	4.2	52.1	8.3		2.1	2.1	
	0			1.5	8.8	4.3	22.8		55.9	3.4		3.0	0.1	
5	-2.4		14.3			14.3	28.6		42.9					
	0		2.3			0.5	5.5		91.7					
9	0.4	2.7				13.5	24.3	8.1	51.4					
	0					6.5	18.4		75.0					
9	2.5	3.1				9.4	31.3	9.4	43.8	3.1				
	0	0.4				5.2	33.7		60.7					

Alternative 1

PCU/PCR	GAINS							0	LOSSES						
	25	25/20	20/15	15/10	10/5	5/E	E/5		5/10	10/15	15/20	20/25	25		

Surgical Specialties

2	12.4 0	1.6 0.3	0.6	3.8 1.9	5.0 4.1	11.3 9.1	21.9 26.9	2.5 0.1	38.9 46.7	10.3 9.7	1.6 1.1	0.9		1.6
4	5.5 0		3.0 1.9	1.5 0.1	1.5 0.2	7.5 6.8	25.4 36.9	11.9 0.1	38.8 51.1	7.5 2.2	3.0 0.8			
4	1.2 0			2.9 1.8		2.9 4.1	40.0 45.6	8.6 0.3	40.0 46.6	2.9 0.7	2.9 1.0			
6	13.7 0	2.0 1.1	2.7 0.5	3.4 1.9	4.4 6.9	8.1 7.7	18.5 14.4	3.0 0.2	32.6 43.1	18.1 21.0	5.7 3.0	1.0 0.2		0.7
8	18.1 0	5.0 0.9	2.9 0.3	1.4 1.4	6.4 7.8	9.3 7.9	16.4 15.0	5.7	39.3 40.1	13.6 26.6				
0	8.6 0	1.9 0.8		1.9 1.1	4.4 4.7	7.0 4.4	23.4 19.3	3.2	53.2 66.8	4.4 2.9	0.6			
4	7.4 0			4.8 3.6		9.5 6.3	28.6 30.0	4.8 0.8	33.3 41.3	14.3 12.5	4.8 5.5			
3	4.3 0				2.2 4.7	6.7 5.9	35.6 27.2	2.2	51.1 59.8	2.2 2.4				
4	7.5 0	1.9	1.2	0.6	3.1 2.7	6.2 8.8	26.7 35.2	1.2	47.8 46.4	6.8 5.6	3.7 1.2			0.6

Hospital Based Specialties and Psychiatry

5	1.8 0	1.0 4.6		2.0 0.9		10.0 9.8	27.0 26.8	2.0	30.0 31.9	21.0 17.6	7.0 8.5			
2	0.7 0	0.8	3.0 0.1	2.3 0.1	2.3 2.5	7.5 4.1	15.8 39.7	8.3 0.1	42.9 50.3	16.5 1.7	0.8 1.4			
0	3.9 0	1.9	1.9 0.1		3.1 0.5	11.2 11.9	26.7 31.9	5.0	43.5 51.2	5.0 4.2	1.2 0.2		0.6	
6	-3.7 0	9.3 3.1	4.7 2.3	10.1 4.1	7.8 1.9	14.7 7.3	18.6 23.2	1.6	18.6 35.4	3.9 8.1	6.2 6.2	3.9 4.7	0.8 3.6	

Alternative 1

		-----GAINS-----							-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25	
All Other Specialties															
2	7.4					20.0		40.0	40.0						
	0					11.4		39.7	48.9						
9	0.4	5.6						77.8	11.1	5.6					
	0	0.2						66.5	32.6	0.6					
7	15.5			5.0		10.0	10.0	20.0	25.0	20.0	5.0	5.0			
	0			13.2		26.7	0.8	0.5	26.8	30.0	0.4	1.7			
1	3.7					11.8	11.8	11.8	47.1	17.6					
	0					11.0	39.3	0.5	48.6	0.6					
2	3.2	3.2				6.5	41.9	6.5	41.9						
	0					0.8	32.8		66.4						
3	-2.5						33.3	50.0	16.7						
	0						32.2	1.8	66.0						
4	1.3					4.5	50.0	13.6	27.3					4.5	
	0					0.3	41.6	0.1	58.1						
8	19.2	2.9	2.9	2.9	5.7	5.7	11.4	11.4	34.3	17.1	5.7				
	0	1.9	0.9	1.5	4.2	10.5	2.1		50.3	26.0	2.7				
8	93.7	40.9	4.5	4.5		4.5		4.5			9.1		4.5	27.3	
	0	13.3	1.2	0.8		13.1		0.3			3.9		2.0	65.4	
2								100.0							
	0							100.0							
5	24.7	6.3				25.0	18.8		6.3	18.8	6.3	18.8			
	0	1.3				48.5	18.1		8.6	2.1	5.3	16.1			
9	0.1	7.7	7.7		7.7	15.4	23.1		30.8	7.7					
	0	0.1			0.4	0.5	35.0		63.0	0.9					

Table A.4 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 2 EIN + PROV#

RETAIN SPECIALTY DISTINCTIONS, ALLOWED CHARGE EQUALS LOWER OF BILL OR FEE SCHEDULE

PCU/PCR	-----GAINS-----						0	-----LOSSES-----						
	25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25	
Primary Care Specialties														
1	7.7		0.1	1.1	0.7	3.3	14.8	3.6	53.3	17.9	1.0	1.2	0.8	2.1
	-2.9			1.5	0.5	4.6	7.4	0.1	60.4	24.6	0.4	0.4		0.1
8	4.2		0.5	0.8	0.3	2.5	26.0	1.0	57.4	4.6	1.3	1.2	0.8	3.5
	-1.7			0.6	0.2	0.8	14.0		79.7	2.1	0.2	0.8	1.2	0.3
0	1.5	1.5		3.0	3.7	13.3	23.7	4.4	33.3	6.7	4.4	3.0	1.5	1.5
	-0.8					6.6	40.3		44.5	0.5	5.7	2.0		0.3
Internal Medicine and Subspecialties														
1	8.8	0.5	0.8	1.5	2.0	5.0	18.6	0.8	46.3	16.8	1.8	1.1	1.2	3.7
	-2.6			0.8	1.8	3.6	12.0		55.3	26.1	0.1		0.1	0.1
3	4.3						25.0	10.0	35.0	25.0	5.0			
	-2.3						19.3	2.4	55.4	22.8	0.1			
6	7.1				1.1	6.5	15.1	2.2	62.4	9.7	2.2	1.1		
	-1.8					2.9	11.0		80.5	5.6				
7	8.4				2.4	2.4	17.6	4.7	38.8	28.2	3.5	1.2		1.2
	-4.0				2.1	1.4	5.7		41.9	47.3	1.6			
0	9.2					10.0	20.0	3.3	66.7					
	-2.2					3.3	14.2		82.5					
3	8.9					4.2	8.3	6.3	54.2	22.9		2.1	2.1	
	-2.6					2.4	11.2		68.8	14.5		3.0	0.1	
5	-2.4					14.3		14.3	57.1	14.3				
	-1.3					2.3		0.5	84.7	12.5				
9	0.4						24.3	10.8	64.9					
	-0.9						13.6		86.4					
9	2.5			3.1		3.1	18.8	12.5	59.4	3.1				
	-0.6			0.4		0.2	15.2		84.2					

Alternative 2

		-----GAINS-----							-----LOSSES-----					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>Surgical Specialties</i>														
2	12.4 -2.8	0.9	0.3	1.6	1.9	2.2 0.5	13.5 16.2	4.1 0.3	53.6 60.7	17.2 20.4	1.9 1.6	1.3 0.2		1.6
4	5.5 -2.0					6.0 3.8	6.0 8.7	13.4 0.1	62.7 81.6	9.0 5.0	1.5 0.3	1.5 0.6		
4	1.2 -0.9						25.7 24.2	8.6 0.3	60.0 73.8	2.9 0.7	2.9 1.0			
6	13.7 -2.6		0.3	0.3	1.7 1.5	4.7 5.7	17.4 13.7	5.0 0.6	40.3 49.0	19.5 22.5	8.4 6.7	1.3 0.2	0.3	0.7
8	18.1 -2.1	0.7	0.7 0.4	1.4 0.5	2.1 2.5	5.0 3.8	17.9 14.3	7.1	47.1 47.8	17.1 30.4	0.7 0.2			
0	8.6 -2.3	0.6 0.1				0.6 0.4	15.2 11.3	3.2	74.1 85.0	5.1 2.9	1.3 0.3			
4	7.4 -2.5					4.8 2.5	23.8 23.0	4.8 0.8	47.6 55.7	14.3 12.5	4.8 5.5			
3	4.3 -1.1					6.7 10.4	17.8 12.4	2.2	71.1 74.8	2.2 2.4				
4	7.5 -1.7			0.6	0.6	2.5 3.4	18.6 26.0	2.5	62.1 59.8	8.7 9.6	3.7 1.2			0.6

Hospital Based Specialties and Psychiatry

5	1.8 -2.1				1.0 0.7	8.0 6.1	26.0 33.6	3.0	32.0 32.0	21.0 17.7	9.0 9.9			
2	0.7 -0.8	0.8	0.8	1.5	3.0 2.6	5.3 3.1	13.5 31.7	12.0 0.2	45.1 59.2	17.3 1.8	0.8 1.4			
0	3.9 -1.1		0.6		1.2 0.1	7.5 2.0	24.2 33.2	6.8	50.9 60.3	6.8 4.2	1.2 0.2		0.6	
6	-3.7 -1.8	5.4 0.6	2.3 1.0	9.3 5.8	7.0 1.4	11.6 2.9	22.5 25.8	3.1	20.9 37.0	7.0 10.9	6.2 6.2	3.9 4.7	0.8 3.6	

Alternative 2

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
11 Other Specialties														
2	7.4							40.0	60.0					
	-1.6							39.7	60.3					
9	0.4							77.8	16.7	5.6				
	-0.6							57.7	41.7	0.6				
7	15.5				5.0		10.0	30.0	15.0	30.0	5.0	5.0		
	-1.7				13.2		26.8	1.2	9.5	47.2	0.4	1.7		
1	3.7					5.9		11.8	64.7	17.6				
	-1.4					0.2		0.5	98.8	0.6				
2	3.2					6.5	32.3	6.5	51.6	3.2				
	-1.2					0.8	23.0		76.0	0.2				
3	-2.5						33.3	50.0	16.7					
	-0.4						32.2	1.8	66.0					
4	1.3						36.4	13.6	45.5					4.5
	-0.6						8.2	0.1	91.7					
8	19.2			2.9	2.9	5.7	8.6	14.3	34.3	25.7	5.7			
	-3.3			0.9	0.2	9.5	6.5		43.3	37.0	2.7			
8	93.7	9.1	4.5	9.1		4.5	9.1	13.6		4.5	9.1	4.5	4.5	27.3
	-19.2	1.2	5.3	1.3		0.6	4.8	1.4		13.1	3.9	1.1	2.0	65.4
2								100.0						
	0							100.0						
5	24.7					6.3	6.3	6.3	18.8	18.8	18.8	18.8		6.3
	-10.3					1.1	8.4	1.3	15.2	9.3	47.1	4.7		12.8
9	0.1	7.7			7.7	7.7	7.7	7.7	38.5	23.1				
	-2.1	0.1			0.4	0.1	19.6		78.1	1.7				



Table A.5 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 3 EIN + PROV#

ELIMINATE SPECIALTY DISTINCTIONS, ALLOWED CHARGE EQUALS FEE SCHEDULE

		GAINS						LOSSES						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
Primary Care Specialties														
01	-22.0	10.9	5.8	13.7	21.7	11.8	15.5	0.2	14.2	1.9	0.6	0.7	0.7	2.1
	15.7	13.7	4.9	18.2	44.0	14.1	2.9		0.9	0.8	0.5			0.1
08	-19.0	5.5	3.6	14.1	24.4	13.9	18.2		11.8	3.0	0.7	0.8	1.0	3.0
	12.4	2.5	5.6	16.4	49.1	17.6	4.7		1.8	0.7	0.3	1.2		0.1
70	-4.5	7.4	5.2	11.1	13.3	16.3	14.8		10.4	3.7	10.4	4.4	0.7	2.2
	2.2	0.7	1.2	5.9	9.4	5.2	58.0		6.2	3.7	8.7	0.8	0.1	0.1
Internal Medicine and Subspecialties														
11	31.7	2.4	1.7	1.8	2.7	6.9	16.8		18.4	16.3	20.4	7.2	0.8	4.6
	-6.9	0.4	0.1	1.5	1.8	3.6	4.0		18.0	31.0	35.3	3.9	0.2	0.2
03	28.1	5.0	5.0			10.0	20.0			15.0	15.0	20.0	10.0	
	-6.1	0.1	0.2			5.3	41.7			8.1	25.0	8.5	11.1	
06	33.7	1.1	1.1	1.1	1.1	3.2	16.1		22.6	30.1	17.2	4.3	2.2	
	-6.6			0.2		1.4	3.8		18.0	58.9	16.3	1.5		
07	22.4	5.9		5.9	3.5	12.9	8.2		15.3	18.8	12.9	10.6	2.4	3.5
	-7.0	2.0		3.4	3.3	4.0	8.9		12.2	21.6	10.6	32.3	1.7	
10	31.7		3.3	3.3	3.3	16.7	6.7		13.3	43.3	6.7	3.3		
	-4.3			3.6	4.1	7.0	1.0		18.0	53.4	12.9			
13	26.3	2.1			4.2	2.1	18.8		8.3	35.4	20.8	8.3		
	-4.9				1.9	8.4	19.3		10.1	36.9	18.6	4.8		
25	9.1		14.3	14.3		14.3			42.9		14.3			
	-1.6		3.0	0.5		2.3			81.6		12.5			
29	29.2	2.7		2.7		5.4	13.5		16.2	37.8	16.2	5.4		
	-8.1			0.1		1.2	6.9		7.6	55.8	24.6	3.8		
39	38.1				3.1	3.1	21.9		18.8	25.0	25.0			3.1
	-5.4				0.4		5.3		44.3	34.9	15.2			

Alternative 3

		-----GAINS-----							-----LOSSES-----					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>Surgical Specialties</i>														
02	11.0	2.8	0.3	2.2	7.5	15.7	25.1	0.6	28.8	11.9	1.6	0.6	0.3	2.5
	1.2	0.5	0.1	2.7	7.3	11.6	29.7		34.5	12.8	0.5	0.2		
04	2.9	9.0	3.0	4.5	11.9	10.4	26.9	1.5	28.4	4.5				
	4.8	2.7	1.8	1.8	11.8	16.3	39.3		24.0	2.1				
14	4.4			2.9	2.9	2.9	17.1	2.9	57.1	11.4	2.9			
	-1.8			1.8	0.3	4.1	11.9	0.3	67.6	13.9	0.2			
16	20.9	5.7	2.7	3.7	7.4	13.4	14.1	0.3	22.8	17.1	5.7	3.4	2.0	1.7
	0.6	1.5	2.3	2.4	10.6	10.1	12.0	0.1	28.3	25.8	4.7	1.9	0.3	0.1
18	18.9	5.7	2.1	2.1	6.4	12.9	20.0	0.7	37.1	12.1	0.7			
	-0.0	1.2		1.4	7.8	8.4	12.4		45.9	22.7	0.2			
20	11.6	1.9		1.9	3.8	9.5	20.9		48.7	10.8	1.9	0.6		
	-0.6	0.8		1.1	3.5	6.9	14.9		64.3	8.0	0.5			
24	17.7				9.5	4.8	14.3		38.1	14.3	9.5		9.5	
	-4.2				9.2	3.6	18.4		28.9	20.8	9.4		9.6	
33	8.6				2.2	6.7	31.1		48.9	11.1				
	-0.5				4.7	6.7	20.7		61.9	6.0				
34	8.0	1.9	1.2	0.6	5.0	10.6	25.5		43.5	5.0	3.7	2.5		0.6
	1.1			0.2	4.6	16.0	31.6		41.8	4.5	1.3	0.1		

Hospital Based Specialties and Psychiatry

05	1.7	2.0		2.0		13.0	28.0		29.0	18.0	7.0			1.0
	0.3	4.9		0.9		11.2	27.5		33.2	13.9	8.5			
22	0.8	5.3	0.8	2.3	2.3	12.8	18.0	2.3	32.3	19.5	2.3	2.3		
	-0.5	0.1		0.1	2.5	5.0	38.2		47.2	2.0	2.3	2.7		
30	6.4	2.5	1.2	1.2	2.5	11.2	24.8		46.0	8.1	1.9		0.6	
	-0.2		0.1		0.5	12.7	28.3		54.6	3.7	0.2			
26	19.1	10.1	3.1	6.2	7.0	8.5	7.8		7.8	12.4	17.8	12.4	3.1	3.9
	-9.7	3.1	1.3	0.9	3.7	2.1	3.5		1.9	19.2	36.7	16.6	8.1	2.9

Alternative 3

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>All Other Specialties</i>														
12	-19.3 10.8	20.0 11.4	20.0 16.8		20.0 32.1		20.0 38.7		20.0 1.0					
19	1.6 6.5	22.2 21.0	5.6 0.5			11.1 3.5	16.7 35.5	11.1 3.4	11.1 1.4	11.1 30.3		5.6 3.9		5.6 0.5
37	63.7 12.5	15.0 29.5		10.0 13.3	10.0 1.4	10.0 34.6	20.0 1.0		10.0 17.3	5.0 1.7	5.0 0.2	15.0 1.0		
41	50.7 -11.1						23.5 3.5		5.9 0.2	11.8 47.5	23.5 28.4	17.6 19.2	11.8 1.2	5.9
42	39.0 -11.5			3.2		3.2 0.4	25.8 2.7		12.9 12.5	16.1 12.0	22.6 49.5	16.1 23.0		
43	25.4 -12.0								33.3 1.7	16.7 16.2	50.0 82.1			
44	17.7 -9.3				18.2 0.4		13.6 0.1		9.1	36.4 75.5	13.6 23.9	4.5 0.1	4.5	
48	49.9 -2.1	8.6 2.8		8.6 5.6	2.9	8.6 5.1	8.6 4.6		22.9 38.8	14.3 21.5	11.4 14.3	8.6 6.6		5.7 0.8
58	87.7 4.6	45.5 14.6	4.5 1.2	4.5 0.8	4.5 0.9	4.5 13.1				4.5 0.3	9.1 3.9		4.5 2.0	18.2 63.2
62					100.0									
	10.0				100.0									
65	39.6 -1.3	6.3 1.3				18.8 47.1	12.5 8.7		12.5 10.7	18.8 9.3	6.3 1.4	25.0 21.4		
69	1.4 1.1	7.7 0.1		7.7		23.1 33.1	7.7 0.5		30.8 65.1	15.4 1.1	7.7 0.1			

Table A.6 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 4 EIN + PROV#

ELIMINATE SPECIALTY DISTINCTIONS, ALLOWED CHARGE EQUALS LOWER OF BILL OR FEE SCHEDULE

		GAINS						LOSSES						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
Primary Care Specialties														
01	-22.0	1.2	1.4	3.6	16.8	26.5	20.9	3.0	19.6	2.5	0.7	0.7	1.0	2.1
	8.0	0.9	1.1	2.2	27.4	51.1	11.0	0.1	3.3	1.9	0.9			0.1
08	-19.0	0.8	1.0	4.3	19.1	25.7	22.6	0.5	16.6	3.5	1.0	0.8	1.2	3.0
	7.5		0.2	2.8	22.5	57.3	12.3		1.6	1.5	0.1	1.2	0.3	0.1
70	-4.5	5.2		5.2	11.1	20.0	13.3	3.0	17.0	6.7	9.6	5.9	0.7	2.2
	0.3	0.1		0.4	6.1	14.9	24.4		38.5	5.9	6.7	2.8	0.1	0.1
Internal Medicine and Subspecialties														
11	31.7	0.5	0.3	0.6	1.2	5.5	15.1	0.8	20.7	15.5	25.3	8.7	0.9	4.9
	-9.0			0.1	0.2	2.3	3.2		14.9	28.8	44.3	5.6	0.1	0.2
03	28.1				5.0	5.0	10.0		10.0	25.0	15.0	20.0	10.0	
	-10.6				0.2	1.9	2.5		12.8	38.0	25.0	8.5	11.1	
06	33.7					1.1	15.1		22.6	31.2	21.5	6.5	1.1	1.1
	-7.9						1.7		7.7	69.0	18.0	3.5		
07	22.4			2.4	1.2	9.4	9.4	1.2	20.0	22.4	16.5	10.6	2.4	4.7
	-10.5				0.4	2.2	8.1		12.6	29.4	11.8	33.7	1.7	
10	31.7					3.3	13.3		26.7	46.7	6.7	3.3		
	-6.6						1.3		26.6	59.1	12.9			
13	26.3					2.1	4.2	2.1	14.6	37.5	25.0	14.6		
	-7.5					1.5	8.8		14.6	36.9	28.6	9.5		
25	9.1						42.9		42.9			14.3		
	-2.9						5.8		81.6			12.5		
29	29.2						16.2	5.4	16.2	35.1	18.9	8.1		
	-8.9						8.1		4.2	55.0	27.8	5.0		
39	38.1					6.3	15.6		25.0	25.0	25.0			3.1
	-5.9					0.4	3.5		46.1	34.9	15.2			

Alternative 4

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>Surgical Specialties</i>														
02	11.0 -2.7	0.9	0.3		0.3	5.6 1.5	16.6 17.6	1.6 0.1	51.4 57.5	17.6 21.5	1.9 1.6	0.6 0.2	0.3	2.8
04	2.9 -0.8					9.0 4.4	20.9 21.6	3.0 0.1	62.7 71.8	3.0 1.6	1.5 0.6			
14	4.4 -2.9						14.3 4.5	2.9 0.3	68.6 81.2	11.4 13.9	2.9 0.2			
16	20.9 -3.7	1.0 0.1		0.7 0.1	3.0 2.0	7.7 4.4	16.1 15.9	1.3 0.1	30.9 34.6	21.5 34.4	8.7 3.2	4.7 4.6	2.7 0.5	1.7 0.1
18	18.9 -2.2	0.7	0.7 0.4	2.1 0.5	2.9 2.6	6.4 3.8	23.6 14.4	2.1	42.1 44.6	18.6 33.5	0.7 0.2			
20	11.6 -3.1	0.6 0.1				0.6 0.4	17.1 10.4		58.2 72.2	19.6 15.4	2.5 1.2	1.3 0.3		
24	17.7 -7.0						19.0 22.3		23.8 11.6	28.6 31.8	14.3 16.7	4.8 8.1	9.5 9.6	
33	8.6 -1.9					4.4 9.6	15.6 11.7		60.0 64.7	17.8 13.8	2.2 0.1			
34	8.0 -1.3					3.1 3.6	23.0 29.6	1.2	56.5 55.0	9.3 10.5	3.7 1.3	2.5 0.1		0.6

Hospital Based Specialties and Psychiatry

05	1.7 -2.1				1.0 0.7	9.0 6.1	27.0 34.1	1.0	30.0 31.7	21.0 16.6	10.0 10.8			1.0
22	0.8 -1.5	5.3 0.1	0.8	1.5	2.3 2.5	9.0 3.3	18.8 32.1	3.0 0.1	34.6 55.0	20.3 2.0	2.3 2.3	2.3 2.7		
30	6.4 -1.4			1.2	1.2 0.1	7.5 2.0	21.7 25.5	1.9	52.2 66.8	11.2 5.5	2.5 0.2		0.6	
26	19.1 -11.1	5.4 0.6	1.6 0.1	7.8 3.8	5.4 3.0	7.8 1.1	8.5 2.7	0.8	10.9 3.3	10.1 14.5	20.9 40.4	12.4 15.1	3.9 12.1	4.7 3.2

Alternative 4

		GAINS							LOSSES						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25	
All Other Specialties															
12	-19.3					60.0			40.0						
	3.3					60.3			39.7						
19	1.6		5.6			11.1	16.7	27.8	16.7	11.1		5.6		5.6	
	-1.8		0.4			3.5	25.4	4.8	31.3	30.3		3.9		0.5	
37	63.7				10.0	10.0	20.0	10.0	20.0	5.0	10.0	15.0			
	-1.1				1.4	21.2	0.8	0.3	56.3	1.7	17.2	1.0			
41	50.7						11.8	5.9	5.9	5.9	35.3	17.6	11.8	5.9	
	-13.1						0.8		0.2	2.6	75.9	19.2	1.2		
42	39.0						29.0		9.7	6.5	35.5	16.1	3.2		
	-13.2						3.1		0.1	4.6	58.1	29.0	5.2		
43	25.4								33.3	16.7	50.0				
	-12.4								1.7	16.2	82.1				
44	17.7				18.2		13.6		9.1	22.7	27.3	4.5	4.5		
	-9.9				0.4		0.1			45.5	53.9	0.1			
48	49.9				2.9	11.4	11.4		20.0	22.9	8.6	17.1		5.7	
	-7.4				0.2	6.3	5.1		20.0	34.5	16.9	16.2		0.8	
58	87.7	9.1	4.5	9.1	9.1	4.5	9.1	13.6		9.1	9.1		4.5	18.2	
	-18.0	1.2	5.3	1.3	2.2	0.6	4.8	2.1		13.4	3.9		2.0	63.2	
62					100.0										
	10.0				100.0										
65	39.6					6.3		6.3	12.5	18.8	25.0	25.0		6.3	
	-11.6					1.1		1.3	12.9	10.0	51.8	10.0		12.8	
69	1.4	7.7				7.7	7.7	7.7	30.8	15.4	23.1				
	-2.4	0.1				0.4	19.6		77.6	1.4	0.9				

Table A.7 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 5 EIN + PROV#
 RETAIN SPECIALTY DISTINCTIONS, \$100+ FEES REDUCED 10%, ALLOWED CHARGE EQUALS FEE SCHEDULE

		GAINS							LOSSES					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
Primary Care Specialties														
01	8.2	2.1	2.3	2.3	3.7	7.4	19.2	0.6	43.6	13.7	1.2	1.1	0.7	2.1
	-0.2	2.2	1.5	2.0	3.4	5.1	13.6		55.6	14.7	1.2	0.6		0.1
08	4.5	1.7	1.2	1.5	2.0	6.5	37.0	0.3	38.8	4.6	1.2	1.0	1.0	3.3
	-0.2	0.4	0.4	0.7	0.5	3.1	39.0		50.7	2.7	1.0		1.2	0.3
70	32.0	2.2		3.0	5.9	21.5	20.0	1.5	16.3	18.5	5.2	3.0	1.5	1.5
	-5.8				2.5	13.7	9.7		2.1	58.5	11.1	2.0		0.3
Internal Medicine and Subspecialties														
11	10.8	3.4	2.4	3.5	2.7	7.2	22.6		34.8	14.6	2.4	1.5	1.4	3.5
	-0.9	0.8	2.3	2.5	2.1	6.4	18.1		40.2	25.4	1.9	0.2	0.2	0.1
03	4.3	5.0				5.0	30.0	5.0	25.0	25.0	5.0			
	-0.1	3.5				1.1	59.8		0.1	12.7	22.8	0.1		
06	19.8	1.1		2.2	1.1	10.8	19.4	1.1	39.8	20.4	2.2	2.2		
	-3.5			1.5		3.2	15.3		45.5	34.4				
07	18.5	7.1	1.2	2.4	3.5	3.5	16.5	2.4	24.7	18.8	15.3	3.5		1.2
	-4.0	2.1		4.7	4.3	1.4	3.9		28.0	17.0	37.9	0.8		
10	26.3	3.3				10.0	10.0	6.7	13.3	53.3	3.3			
	-6.1					8.9	6.7		6.1	73.4	4.9			
13	9.7	2.1		2.1	4.2	4.2	16.7	4.2	45.8	14.6		4.2		2.1
	-0.5			1.5	8.8	0.9	21.9		48.9	14.4		3.2		0.1
25	-1.2			14.3		14.3	28.6		28.6	14.3				
	-0.7			2.3		0.5	5.5		79.1	12.5				
29	3.8	2.7				13.5	18.9	8.1	54.1	2.7				
	-1.5					6.5	7.7		84.6	1.2				
39	5.0		3.1			6.3	12.5	9.4	31.3	37.5				
	-5.2		0.4			1.9	4.5		21.2	72.0				

Alternative 5

		-----GAINS-----						-----LOSSES-----						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>Surgical Specialties</i>														
02	34.5 -7.8	0.9	0.9 0.2	2.2 0.1	2.2 0.1	3.8 2.2	9.1 7.0	1.9	21.0 15.8	23.2 29.2	29.8 42.8	3.1 2.4	0.3 0.2	1.6
04	18.4 -5.5		1.5	3.0 2.0	1.5 0.2	1.5 1.5	7.5 5.9	11.9 0.1	29.9 28.5	32.8 54.6	10.4 7.3			
14	15.0 -7.5				2.9 1.8		2.9	5.7	17.1 12.2	57.1 69.1	11.4 15.9		2.9 1.0	
16	28.6 -6.6	1.7 0.2	2.3 0.4	3.0 1.1	0.7 0.2	5.0 4.1	14.4 10.4	2.3	16.4 9.4	27.9 39.9	21.8 30.2	3.4 3.9	0.3 0.2	0.7
18	64.6 -8.2	5.0 0.9	2.9 0.3	0.7	0.7	2.1 1.6	10.0 8.1	5.7	21.4 9.7	27.9 35.5	21.4 37.7	2.1 6.1		
20	27.3 -7.3	0.6 0.1	0.6 0.2	0.6 0.5	0.6 0.6	3.8 1.6	8.9 6.8	3.2	15.2 9.2	45.6 47.8	20.3 33.3	0.6		
24	23.2 -8.3					4.8 3.6	4.8 1.6		23.8 25.6	28.6 27.5	28.6 28.1	4.8 8.1	4.8 5.5	
33	30.3 -9.2							2.2	20.0 15.7	42.2 27.9	35.6 56.4			
34	30.5 -7.2	1.9	1.2	0.6	1.2		8.7 5.1	0.6	29.8 14.2	35.4 57.8	19.3 21.8	0.6 1.1		0.6

Hospital Based Specialties and Psychiatry

05	1.9 -0.1	1.0 4.6		2.0 0.9		9.0 7.2	28.0 29.4	2.0	29.0 31.4	22.0 18.1	7.0 8.5			
22	0.7 0	0.8	3.0 0.1	2.3 0.1	2.3 2.5	7.5 4.1	15.8 39.7	8.3 0.1	42.9 50.3	16.5 1.7	0.8 1.4			
30	5.4 -1.0	1.9	1.9 0.1		3.1 0.5	8.7 7.7	23.6 20.5	5.0	46.0 63.1	6.8 7.9	1.9 0.2	0.6	0.6	
26	-3.7 0	9.3 3.1	4.7 2.3	10.1 4.1	7.8 1.9	14.7 7.3	18.6 23.2	1.6	18.6 35.4	3.9 8.1	6.2 6.2	3.9 4.7	0.8 3.6	

Alternative 5

		GAINS							LOSSES						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25	
<i>All Other Specialties</i>															
12	7.4					20.0		20.0	60.0						
	-0.4					11.4		1.0	87.6						
19	15.8	5.6						66.7	5.6	16.7	5.6				
	-5.7	0.2						25.6	2.8	50.2	21.2				
37	15.5			5.0		10.0	10.0	20.0	20.0	25.0	5.0	5.0			
	-0.4			13.2		26.7	0.8	0.5	18.8	38.0	0.4	1.7			
41	3.7					11.8	11.8	11.8	47.1	17.6					
	0					11.0	39.3	0.5	48.6	0.6					
42	3.2	3.2				6.5	41.9	6.5	41.9						
	0					0.8	32.8		66.4						
43	-2.5						33.3	33.3	16.7	16.7					
	-0.4						32.2	0.1	66.0	1.7					
44	1.3					4.5	50.0	13.6	27.3					4.5	
						0.3	41.6	0.1	58.1						
48	23.6	2.9		5.7		8.6	14.3	11.4	17.1	34.3	5.7				
	-1.7	1.9		2.3		9.7	7.1		24.1	52.2	2.7				
58	93.7	40.9	4.5	4.5		4.5		4.5			9.1		4.5	27.3	
	0	13.3	1.2	0.8		13.1		0.3			3.9		2.0	65.4	
62								100.0							
	0							100.0							
65	24.7	6.3				25.0	18.8		6.3	18.8	6.3	18.8			
	0	1.3				48.5	18.1		8.6	2.1	5.3	16.1			
69	0.1	7.7	7.7		7.7	15.4	23.1		23.1	15.4					
	-0.4	0.1			0.4	0.5	35.0		58.1	5.9					

Table A.8 Estimated Changes in Beneficiary Unassigned Liability (PCU), Total Allowed Charges (PCR), and Distribution of Percentage Changes by Practice and by Allowed Charge Weights Attendent to a Conversion to Fee Schedules

ALTERNATIVE 6 EIN + PROV#

RETAIN SPECIALTY DISTINCTIONS, \$100+ FEES REDUCED 10%, ALLOWED CHARGE EQUALS FEE SCHEDULE

PCU/PCR		-----GAINS-----						0	-----LOSSES-----					
		25	25/20	20/15	15/10	10/5	5/E		E/5	5/10	10/15	15/20	20/25	25
Primary Care Specialties														
01	-21.6	10.5	5.8	14.1	21.2	12.1	15.4	0.2	14.6	1.8	0.6	0.8	0.7	2.1
	15.3	12.7	5.4	18.7	42.7	14.5	3.1		1.6	0.6	0.6			0.1
08	-18.7	5.5	3.6	12.4	25.4	14.1	18.7		11.8	3.0	0.5	1.0	1.0	3.0
	12.0	2.5	5.6	12.9	49.5	19.8	5.6		1.8	0.7		1.5		0.1
70	25.0	7.4	5.2	10.4	11.9	17.0	11.1		7.4	9.6	10.4	6.7		3.0
	-3.7	0.7	1.2	5.4	9.1	3.2	8.0		1.7	57.5	8.2	4.8		0.2
Internal Medicine and Subspecialties														
11	33.3	2.4	1.7	1.5	2.3	7.2	16.3		16.3	17.1	22.0	7.9	0.8	4.6
	-7.8	0.4	0.1	1.1	1.1	3.6	3.6		13.2	32.0	40.4	4.1	0.2	0.2
03	28.1	5.0	5.0			10.0	20.0			15.0	15.0	20.0	10.0	
	-6.2	0.1	0.2			5.3	41.7			8.1	25.0	8.5	11.1	
06	46.5	1.1	1.1	1.1	1.1	2.2	15.1		18.3	21.5	25.8	9.7	3.2	
	-10.0			0.2			3.1		8.2	34.0	46.2	8.3		
07	32.8	4.7	1.2	3.5	3.5	14.1	5.9		14.1	15.3	15.3	7.1	9.4	5.9
	-10.5	1.0	1.1	0.1	3.4	6.2	2.2		12.1	17.7	15.0	8.7	31.0	1.7
10	48.4		3.3			10.0	6.7		13.3	10.0	46.7	10.0		
	-10.4					7.6	1.3		6.7	7.4	64.0	12.9		
13	27.1	2.1			4.2		18.8		10.4	29.2	20.8	14.6		
	-5.6				1.9		27.3		10.6	34.0	18.7	7.6		
25	10.8		14.3	14.3			14.3		42.9		14.3			
	-1.8		3.0	0.5			2.3		81.6		12.5			
29	32.6	2.7		2.7		2.7	16.2		13.5	24.3	32.4	5.4		
	-9.6			0.1			8.1		3.7	28.0	56.3	3.8		
39	40.6				3.1	3.1	15.6		12.5	9.4	50.0	3.1		3.1
	-10.5				0.4		0.3		5.2	24.2	69.1	0.9		

Alternative 6

		-----GAINS-----							-----LOSSES-----					
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>Surgical Specialties</i>														
02	33.1	2.2		0.9	1.3	8.2	12.9		20.1	26.0	21.3	4.1	0.6	2.5
	-6.8	0.3		0.3	0.1	3.9	10.0		15.6	33.0	31.7	4.8	0.2	
04	15.5	9.0		4.5	6.0	13.4	11.9	1.5	28.4	22.4	3.0			
	-0.8	2.7		2.1	3.1	13.1	13.9		31.6	31.5	2.0			
14	18.2					5.7	8.6		11.4	31.4	37.1	2.9	2.9	
	-9.1					2.1	0.1		10.4	37.2	49.1	1.0	0.2	
16	35.8	5.0	1.3	3.7	4.4	8.7	11.7		16.1	18.5	18.1	8.1	2.7	1.7
	-5.9	0.5	0.3	2.9	3.8	2.6	14.1		11.7	23.1	29.9	9.2	1.8	0.1
18	65.5	5.7	2.1	1.4	1.4	4.3	15.7	0.7	17.9	27.1	20.7	2.9		
	-8.3	1.2			1.4	0.2	8.8		9.3	33.7	37.6	7.8		
20	30.1		1.3	0.6	0.6	3.2	10.1		15.8	37.3	29.1	1.9		
	-7.9		0.2	0.5	0.6	1.7	5.6		9.7	40.0	41.0	0.8		
24	32.7					4.8	4.8		14.3	14.3	28.6	19.0	4.8	9.5
	-12.0					0.3	8.9		10.2	15.9	24.8	22.1	8.1	9.6
33	33.9						2.2		15.6	37.8	42.2	2.2		
	-9.6						1.0		14.0	25.1	59.9	0.1		
34	31.0	1.9	1.2		2.5	0.6	11.2		37.3	25.5	14.9	4.3		0.6
	-6.1				0.2	0.6	8.5		28.9	38.8	21.6	1.4		
<i>Hospital Based Specialties and Psychiatry</i>														
05	1.8	2.0		2.0		13.0	26.0		31.0	18.0	7.0			1.0
	0.2	4.9		0.9		11.2	26.3		34.4	13.9	8.5			
22	0.8	5.3	0.8	2.3	2.3	12.8	18.0	2.3	32.3	19.5	1.5	3.0		
	-0.5	0.1		0.1	2.5	5.0	38.2		47.2	2.0	1.7	3.2		
30	7.9	1.9	1.2	1.9	2.5	9.3	22.4		46.6	10.6	2.5	0.6	0.6	
	-1.2		0.1		0.5	8.5	17.2		65.5	8.1	0.2			
26	19.1	10.1	3.1	6.2	7.0	8.5	7.8		7.8	12.4	17.8	12.4	3.1	3.9
	-9.7	3.1	1.3	0.9	3.7	2.1	3.5		1.9	19.2	36.7	16.6	8.1	2.9

Alternative 6

		GAINS						LOSSES						
PCU/PCR		25	25/20	20/15	15/10	10/5	5/E	0	E/5	5/10	10/15	15/20	20/25	25
<i>All Other Specialties</i>														
12	-19.3 10.6	20.0 11.4	20.0 16.8		20.0 32.1				40.0 39.7					
19	9.3 0.4	16.7 1.3	11.1 20.2			11.1 3.5	11.1 5.7	11.1 3.4	16.7 31.3	5.6 9.0		11.1 25.1		5.6 0.5
37	63.7 12.1	15.0 29.5		10.0 13.3	10.0 1.4	5.0 26.6	25.0 9.0		10.0 17.3	5.0 1.7	5.0 0.2	15.0 1.0		
41	50.7 -11.1						23.5 3.5		5.9 0.2	11.8 47.5	23.5 28.4	17.6 19.2	11.8 1.2	5.9
42	39.0 -11.5			3.2		3.2 0.4	25.8 2.7		12.9 12.5	16.1 12.0	22.6 49.5	16.1 23.0		
43	25.4 -12.3								16.7	16.7 16.2	66.7 83.8			
44	17.7 -9.3				18.2 0.4		13.6 0.1		9.1	36.4 75.5	13.6 23.9	4.5 0.1	4.5	
48	54.2 -3.7	8.6 2.8		2.9 1.5	2.9	14.3 9.3	8.6 4.6		22.9 38.8	11.4 16.2	14.3 19.6	8.6 6.6		5.7 0.8
58	87.7 4.6	45.5 14.6	4.5 1.2	4.5 0.8	4.5 0.9	4.5 13.1				4.5 0.3	9.1 3.9		4.5 2.0	18.2 63.2
62	10.0				100.0 100.0									
65	39.6 -1.3	6.3 1.3				18.8 47.1	12.5 8.7		12.5 10.7	18.8 9.3	6.3 1.4	25.0 21.4		
69	1.4 0.6	7.7 0.1		7.7		23.1 33.1	7.7 0.5		23.1 60.1	23.1 6.1	7.7 0.1			

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